VILLAGIO OWNERS MANUAL

Villagio

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SECTION 1 – INTRODUCTION

Congratulations! We welcome you to the exciting world of motorhome travel and camping. You will find it convenient and enjoyable to have all the comforts of home and still enjoy the great outdoors wherever you choose to go. Your motorhome has been carefully designed, engineered, and manufactured to provide years of enjoyment.

Before sliding into the driver's seat, please become familiar with operations and features. In addition, spend some time with the dealer when you take delivery to learn all you can about your new motorhome.

1-1 ABOUT THIS MANUAL

This operator's manual was prepared to aid you in the proper care and operation of the vehicle and equipment.

Please read this manual completely to understand how everything in your coach works before taking it on its "maiden voyage". In addition, please become familiar with the New Vehicle Limited Warranty.

NOTE: This manual describes many features of your motorhome and includes instructions for its safe use.

This manual, including graphs and illustrations, is of a general nature only. Some equipment and features described or shown in this manual may be optional or unavailable on your continuous program of product improvement; it is possible that recent product changes and information may not be included.

The instructions included in this manual are intended as a guide, and in no way extend the responsibilities of Renegade RV beyond the standard written warranty as presented in this manual. The descriptions, illustrations, and specifications in this manual were correct at the time of printing.

We reserve the right to change specifications or design without notice, and without incurring obligation to install the same on products previously manufactured.

The materials in your Info Case contain warranty information and operating and maintenance instructions for the various appliances and components in your motorhome.

NOTE: Many of the instruction sheets and manuals for the various appliances and components have been incorporated into the Operator s Manual Supplement for your convenience.

Please read the FAQ in Section 1 of the Operator s Manual Supplement for more details.

Throughout this manual, frequent reference is made to the vehicle chassis manual that is provided by the manufacturer of the chassis on which this motorhome is built. Consult the chassis manual for operating, safety, and maintenance instructions pertaining to the chassis section of the motorhome.

1-1 SAFETY MESSAGES USED IN THIS MANUAL

Throughout this manual, certain items are labeled Danger, Warning, Caution, Notice, or Note. These terms alert you to precautions that may involve damage to your vehicle or a risk to your personal safety. Read and follow them carefully.

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious personal injury.

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious personal injury.

⚠ CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate personal injury.

NOTICE

NOTICE is used to address practices not related to personal injury.

NOTE: A "Note" is not necessarily safety related, but indicates a recommendation or special point of information that could assist in understanding the use or care of a feature item.

1-2 PRE-DELIVERY INSPECTION

This motorhome has been thoroughly inspected before shipment. Your dealer is responsible for performing a complete pre-delivery inspection of the chassis and all motorhome components.

As a part of the pre-delivery inspection procedure, the dealer is responsible for road testing the motorhome, noting, and correcting any problems before delivery.

1-2 FRONT AXLE TIRE ALIGNMENT

We recommend that you have the front suspension and steering alignment checked and adjusted after you have fully loaded the vehicle according to your needs. Thereafter, have alignment inspected periodically to maintain vehicle steering performance and prevent uneven tire wear.

1-2 SERVICE AND ASSISTANCE

Your dealer will be glad to provide any additional information you need, as well as answer any questions you might have about operating the equipment in your coach. When it comes to service, remember that your dealer knows your vehicle best and is interested in your satisfaction. Your dealer will provide quality maintenance and any other assistance that you may require during your ownership of this vehicle.

If you need warranty repairs while traveling, you may take your vehicle to any authorized Renegade RV dealership and request their assistance. See the Service Dealer Directory in your Info Case.

1-2 REPORTING SAFETY DEFECTS

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHT SA) in addition to notifying Renegade RV.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or Renegade RV

To contact NHTSA, you may either call the Vehicle Safety Hotline toll-free at: 1-888-327-4236; (TTY: 1-800-424-9153) or go to their website at http://www.safercar.gov or write to:
Administrator, NHTSA
1200 New Jersey Avenue S.E.
Washington, D.C. 20590
You can also obtain other information about motor vehicle safety from the NHTSA website at http://www.safercar.gov

1-3 OCCUPANT AND CARGO CARRYING CAPACITY LABEL

This label is affixed in the driver's area next to or near the Vehicle Certification Label. It contains vehicle occupant and cargo carrying capacity along with the number of seat belt positions in the vehicle. The label also provides the weight of a full load of water and advises that this weight, along with the tongueue weight counts as cargo.

MOTOR HOME OCCUPANT AND CARGO CARRYING CAPACITY

VIN:

The combined weight of occupants and cargo should never exceed: 556 kg or1225 lbs.
Safety belt equipped seating capacity: 4
Full load of water weight 130kg or 285lbs.
CAUTION:
Towing information
Tongue weight is 500lbs max.
Tow Capacity 3,500lbs Max.
If any weight exceeding 45.4 kg (100 lbs.) is added to your coach between final vehicle certification and first retail sale, the occupant and cargo carrying capacity must be corrected and a label similar to the one shown below will be affixed inside your coach.

CAUTION–CARGO CARRYING CAPAC-ITY REDUCED MODIFICATIONS TO THIS VEHICLE HAVE REDUCED THE ORIGINAL CARGO CARRYING CAPACITY BY
KILOGRAMS
(POUNDS)
FD-317

1-4 VEHICLE CERTIFICATION LABEL

This label is affixed to the lower driver side arm rest panel, driver door, or the driver side door jamb, depending on model. It contains vehicle identification numbers and other important reference information.

MANUFACTURED BY RENEGADE RV COMPLETE VEHICLE MANUFACTURED BY

This label is affixed to the lower driver side arm rest panel, driver door, or the driver side door jamb, depending on model. It contains vehicle identification numbers and other important reference information.

EXPLANATION OF DATA

1. Chassis manufacturer.
2. Chassis manufacture date.
3. Month and year of manufacture at Renegade RV.
4. Gross Vehicle Weight Rating: Total permissible weight of the vehicle, including driver, passengers, total cargo carried (including all liquids), and equipped with all options.
5. Gross Axle Weight Rating: Total permissible weight allowed for the front and rear axles (listed in pounds and kilograms).
6. Suitable Tire Choice: Tires recommended to meet handling and safety requirements. When replacing any of the tires on your

vehicle, always replace with a tire that meets these specifications.
7. Suitable Rim Choice: Wheel rims recommended to meet handling and safety requirements. When replacing any of the rims on your vehicle, always replace with a rim that meets these specifications.
8. Cold Inflation Pressure: Inflation pressures at Gross Axle Weight Ratings recommended (while cold) for the tires originally equipped on your vehicle. These pressure levels must be maintained to assure proper handling, safety, and fuel economy.
9. Rear Axle Wheel Configuration: Single or Dual as it relates to the inflation.
10. Serial Number: This is the serial number assigned to the completed vehicle by Renegade RV.
11. Vehicle Identification Number (VIN): This number identifies the chassis on which the motorhome is built. The 10th digit of the VIN designates the chassis model year. (C=2012, D=2013, etc.). This information is useful when ordering chassis repair parts.
12. Type: States the NHTSA designated usage classification for your motorhome. MPV signifies a Multi-purpose Passenger Vehicle.
13. Color: Signifies the color code number of the decor used throughout the vehicle. This number is necessary for ordering replacement cushions, curtains, carpet, etc.
14. Renegade model year and floor plan.
15. Model: Lists the Renegade product model number of your vehicle.

1-5 SPECIFICATIONS AND CAPACITIES

Renegade Villagio
Mercedes- Mercedes- Benz®
Sprinter Cab Sprinter Cab
Chassis, 3500
Length, 25.5”
Exterior Height, 10’5”
Exterior Width, 7' 6.25
Exterior Storage, 2 43.1 cu. ft. 37.4 cu. ft.
Awning Length, 15'
Interior Height, 6'8"
Interior Width, 7' 3"
Freshwater Tank Capacity, 32 gal.
Water Heater Capacity, 6 gal.
Holding Tank Capacity - Black 32 gal.
Holding Tank Capacity - Gray 36 gal.
Propane Capacity,13 gal.
Wheelbase, 170"
GVWR - 11,030lbs
GAWR - Front 4,410lbs.
GAWR - Rear 7,720lbs.
GCWR5 - 15,250lbs.
Fuel Capacity, 100 liter/26.4 gal.

Notes:
All measurements are based upon the most recent data available. See your dealer for specifications.
1. The height of each model is measured to the top of the tallest standard feature and is based on the curb weight of a typically equipped unit. The actual height of your vehicle may vary by several inches depending on chassis or equipment variations. Contact your dealer for further information.
2. The load capacity of your motor home is designated by weight, not by volume, so you cannot necessarily use all available space when loading your motor home.
3. Capacities are based on measurements prior to tank installation. Slight capacity variations can result upon installation.
4. Capacities shown are the tank manufacturer's listed water capacity (W.C.). Actual filled propane capacity is 80% of listing due to overfilling prevention device on tank.
5. Actual towing capacity is dependent on your particular loading and towing circumstances which includes the GVWR, GAWR, and GCWR, as well as adequate trailer brakes. Refer to the chassis operator's manual of your motor home for further towing information.

1-6 VILLAGIO OWNER AND VEHICLE INFORMATION

OWNER INFO:

Owner's Name(s) _____

Address_____

VEHICLE INFORMATION

Motorhome Model Number_____

Motorhome Serial Number_____

Chassis Vehicle Identification No. (VIN) _____

Vehicle Mileage at Delivery_____

Selling Dealer Name_____

Address_____

Your Renegade RV Dealer:

Name _____

Address _____

Contact Phone _____

Chassis Service Center

Name _____

Address _____

Contact Phone _____

RV Insurance Policy

Company _____

Policy Number_____

Agent _____

Phone _____

SECTION 2 - SAFETY AND PRECAUTIONS

2-1 GENERAL WARNINGS

Only seats equipped with seat belts are to be occupied while the vehicle is moving. Make sure all passengers have seat belts fastened. Lap belts should fit low on the hips and upper thighs. The shoulder belt should be positioned snug over the shoulder.

For pregnant women: Never place the shoulder belt behind your back or under your arm. Adjust the lap belt across your hips/ pelvis, and below your belly. Place the shoulder belt across your chest (between your breasts) and away from your neck.

Child restraints should be installed properly according to manufacturer's instructions. See "Child Restraints".

All moveable or swiveling seats should be placed and locked in travel position while the vehicle is moving.

Never let passengers stand or kneel on seats while the vehicle is moving.

Sleeping facilities are not to be utilized while vehicle is moving.

Examine the escape window and be familiar with its operation.

Inspect the fire extinguisher monthly for proper charge and operating condition. This should also be done before beginning a vacation or any extended trip.

2-1 DRIVING SAFETY

Do not attempt to adjust the driver's seat while the vehicle is moving.

Do not adjust tilt steering in a moving vehicle.

Do not operate the cruise control on icy or extremely wet roads, winding roads, in heavy traffic, or in any other traffic situation where a constant speed cannot be maintained.

Use care when accelerating or decelerating on a slippery surface. Abrupt speed changes can cause skidding and loss of control. Never drive the vehicle with a slide-out room extended.

Driving through water deep enough to wet the brakes may affect stopping distance or cause the vehicle to pull to one side. Check brake operation in a safe area to be sure they have not been affected. Never operate any vehicle if a difference in braking efficiency is noticeable.

Adverse weather conditions and extremes in terrain may affect handling and/or performance of your vehicle. Refer to your chassis manual for complete and related information on driving your vehicle.

2-2 FUEL AND PROPANE GAS

⚠ DANGER

All pilot lights, appliances, and their ignitors (see operating instructions) shall be turned off before refueling of motor fuel tanks and/or propane containers. Failure to comply could result in death or serious injury.

⚠WARNING

Propane gas containers, gasoline, or other flammable liquids shall not be placed or stored onboard the vehicle because a fire or explosion may result. Propane gas containers are equipped with safety valves, which relieve excessive pressure by discharging gas to the atmosphere. Failure to comply could result in death or serious injury.

All pilot lights must be extinguished and appliances turned off while refilling the fuel tank or propane gas tank.

Never smoke while refilling vehicle fuel tank or propane gas tank.

Never use an open flame to test for propane gas leaks. Replace all protective covers and caps on propane system after filling. Make sure valve is closed and the door is latched securely.

Never connect natural gas to the propane gas system. When lighting range burners, do not turn burner controls to "On" and allow gas to escape before lighting match.

Portable fuel-burning equipment, including wood and charcoal grills and stoves shall not be used inside the recreational vehicle. The use of this equipment inside the recreational vehicle may cause fires or asphyxiation.

Propane gas regulators must always be installed with the diaphragm vent facing downward. Regulators are equipped with a protective cover. Make sure that the regulator vent faces downward and that the cover is kept in place to minimize vent blockage, which could result in excessive gas pressure causing fire or explosion.

The following warning label is located in the cooking area to remind you to provide an adequate supply of fresh air for combustion:

⚠WARNING IT IS NOT SAFE TO USE COOKING APPLIANCES FOR COMFORT HEATING

⚠WARNING
IT IS NOT SAFE TO USE COOKING
APPLIANCES FOR COMFORT HEATING
Cooking appliances need fresh air for safe operation.
Before operation:
(1) Open overhead vent or turn on exhaust fan.
(2) Open window.
FAILURE TO COMPLY COULD RESULT
IN DEATH OR SERIOUS INJURY

⚠FAILURE TO COMPLY COULD RESULT IN DEATH OR SERIOUS INJURY

Unlike homes, the amount of oxygen supply is limited due to the size of the recreational vehicle, and proper ventilation when using the cooking appliance(s) avoids dangers of asphyxiation. It is especially important that cooking appliances not be used for comfort heating, as the danger of asphyxiation is greater when the appliance is used for long periods of time. Failure to comply could result in death or serious injury.

2-2 PROPANE GAS LEAKS

Check propane gas system for leaks yearly, or as necessary. The following procedures are noted on a label, located in the vehicle near the range area. If you smell gas within the vehicle, quickly and carefully perform the procedures listed.

⚠IF YOU SMELL PROPANE

Extinguish any open flames, pilot lights, and all smoking materials.

Do not touch electrical switches. Shut off the gas supply at the tank valve(s) or gas supply connection.

Open doors and other ventilating openings. Leave the area until odor clears.
Have the propane system checked and leakage source corrected before using again. Failure to comply could result in death or serious injury.

2-2 PROPANE GAS LEAK DETECTOR

Your coach is equipped with a Propane Gas Leak Detector, similar to the one shown below. The leak detector sounds an alarm if an unsafe amount of propane gas is present inside the coach.

Propane Gas Leak Detector

WARNING

EXPLOSION HAZARD: DO NOT use an open flame to test for gas leaks. When testing for gas line leaks with a soapy water solution, DO NOT use a detergent containing ammonia or chlorine. These substances may generate a chemical reaction causing corrosion to gas lines, resulting in dangerous leak conditions. Death or serious injury can result.

Power Connection

The Propane Gas Leak Detector is powered by the house batteries. If the House/Coach Battery Disconnect switch is shut off or the battery cable is disconnected from the batteries, the alarm will not work.

The Propane Gas Leak Detector fuse or circuit breaker is located in the 12-volt house electrical load center.

Because the Propane Gas Leak Detector is connected to the house battery, it is always drawing a small amount of current. Even though this current draw is slight, it could drain the house battery during storage periods when the house battery will not be charged regularly by the engine or shoreline.

For further information see the manufacturer's user guide provided in your Info Case.

2-3 CARBON MONOXIDE WARNING

WARNING

Avoid inhaling exhaust gases, as they contain carbon monoxide, which is a colorless, odorless, and poisonous gas. Death or serious injury can result.

The best protection against carbon monoxide entry into the vehicle body is a properly maintained engine exhaust and ventilation system. It is recommended that the exhaust
system and body be inspected by a qualified motorhome service center:
1) Each time the vehicle is serviced for an oil change.
2) Whenever a change in the sound of the exhaust system is noticed.
3) Whenever the exhaust system, underbody, or rear of the vehicle is damaged.

To allow proper operation of the vehicle's ventilation system, keep front ventilation inlet grill clear of snow, leaves, or other obstructions at all times.

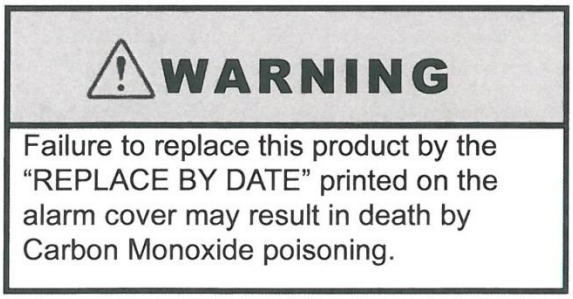
DO NOT OCCUPY A PARKED VEHICLE WITH ENGINE RUNNING FOR AN EXTENDED PERIOD.

Do not run engine in confined areas, such as a garage, except to move vehicle into or out of the area.

2-3 CARBON MONOXIDE ALARM & SMOKE DETECTOR COMBNATION

Your coach is equipped with a Carbon Monoxide (CO) Alarm & Smoke Detector combination (located on the ceiling in the living area.) The Alarm is powered by a 9-volt battery and has a sensor that is designed to detect toxic carbon monoxide gas fumes resulting from incomplete combustion of fuel. It will detect CO gas from any combustion source such as the furnace, gas range/oven, water heater, refrigerator, chassis engine, and electric generator engine. The unit also senses smoke that could be toxic and signaling a possible fire

Typical Smoke & CO monitor combination monitor


WARNING
Failure to replace this product by the "REPLACE BY DATE" printed on the alarm cover may result in death by Carbon Monoxide poisoning.

Replacement

When replacing this alarm, we recommend replacing only with the same model, or with one that is also listed for RV application. We recommend obtaining a replacement from your Renegade RV dealer.

For further information please read the information provided by the manufacturer, which is included in your Info Case.

2-4 SMOKE ALARM

The smoke detector is part of the CARBON MONOXIDE ALARM on most models

Some coaches are equipped with a Smoke Alarm separate from the CO monitor (located on the ceiling in the living area.) The Smoke Alarm is powered by a 9-volt battery and has a sensor that is designed to detect smoke.

Typical Smoke & CO monitor combination monitor

The following label is affixed to the Smoke Alarm:

⚠ WARNING

TEST SMOKE ALARM OPERATION AFTER VEHICLE HAS BEEN IN STORAGE, BEFORE EACH TRIP, AND AT LEAST ONCE PER WEEK DURING USE. FAILURE TO COMPLY MAY RESULT IN SERIOUS INJURY.

Replacement:
When replacing this alarm, we recommend replacing only with the same model, or with one that is also listed for RV application. We recommend obtaining a replacement from your Renegade RV dealer.

For further information see the manufacturer's information in your Info Case.

2-4 FIRE EXTINGUISHER

A dry chemical Fire Extinguisher is located near the main entrance door.

(Typical installation - your coach may vary according to model and floor plan)

We recommend that you become thoroughly familiar with the operating instructions displayed on the side of the Fire Extinguisher and in the information supplied in your Info Case.

We also recommend that you inspect the Fire Extinguisher for proper charge at least once a month in accordance with National Fire Protection Association (NFPA) recommendations as stated on the label. If the charge is insufficient, the Fire Extinguisher must be replaced.

NOTICE

Do not test the fire extinguisher by discharging it. Partial discharge can cause leakage of pressure or contents, which would render the unit inoperative when needed. When using the fire extinguisher, aim the spray at the base of the fire.

Replacement
If for any reason you must replace the Fire Extinguisher, the replacement must be the same type and size as the one originally supplied in your coach. We recommend obtaining a replacement only from your Renegade RV dealer or a reliable RV parts supplier.

2-5 ELECTRICAL

Careless handling of electrical components can be fatal. Never touch or use electrical components or appliances while feet are bare, while hands are wet, or while standing in water or on wet ground.

Improper grounding of the vehicle can cause personal injury. Do not plug the utility power cord into an outlet which is not grounded and do not adapt the plug to connect to a receptacle for which it is not designed.

- Do not attach an extension cord to the utility power cord.
- Do not use any electrical device that has had the ground pin removed.
- Avoid overloading electrical circuits.
- Replace fuses or circuit breakers with those of the same size and amperage rating only.
- Never use a higher rated fuse or breaker.
- Use caution when handling or working near electrical storage batteries.
- Always remove jewelry and wear protective clothing and eye covering. Avoid creating sparks.

2-6 LOADING

Store or secure all loose items inside the motorhome before traveling. Possible overlooked items such as canned goods or small appliances on the countertop, cooking pans on the range, or free-standing furniture items can become dangerous projectiles during a sudden stop.

Be aware of GVWR, GA WR, and individual load limit on each tire or set of duals (See "Loading the Vehicle" in Section 12 - Miscellaneous).
Never load the motorhome in excess of the gross vehicle weight rating of the gross axle weight rating for either axle.

2-7 MAINTENANCE

Do not remove the radiator cap while engine and radiator are still hot. Always check coolant level visually at the see-through coolant reservoir.
Never get beneath a vehicle that is held up by a jack only.
Do not mix different construction types of tires on the vehicle, such as radial, bias, or belted tires, as vehicle handling may be affected. Replace tires with exact size, type, and load range.
Refer to your chassis manual for complete maintenance precautions and recommendations.

2-8 EMERGENCY EXITS

Escape Window

The bedroom escape window is secured by two red safety latches at the bottom of the window.
To open, lift both latches up and toward the center of the window, then push outward near the bottom of the window.
Escape Window (Lift latch handles upward to open).

Using Slider Windows As Emergency Exits

Some coaches are required to have a slider window as an alternate exit. This window will be marked EXIT and have a red-handled latch.
Pull latch UP to slide window open
Most slider windows along the side of any motorhome can also be used as alternate emergency exits, should the need arise.
To use a slider window as an exit, first slide the window open, then either slide the screen open or push the screen material out, depending on window construction.

PULL UP BOTH LEVERS

2-9 SLIDEOUT ROOMS

⚠WARNING

Your motorhome may have more than one slideout room. Understand which switch operates which slideout room prior to operation. Make sure all slideout rooms are clear of people who could be harmed or obstacles that could cause damage prior to operating any slideout rooms. Failure to observe can result in death or serious injury.

Check inside and outside the vehicle to make sure that there are no people who could be harmed or obstacles that could cause damage due to room activation.

⚠WARNING

Keep all persons clear of the slideout room and moving parts while extending or retracting. Do not occupy the slideout room while it is being extended or retracted. Failure to observe can result in death or serious injury.

2-10 FORMALDEHYDE INFORMATION

Building materials used in your homes, RV's and other construction process contain formaldehyde in them. It is used in curing materials to reduce moisture and preserver the materials.

Renegade has researched and made it a goal to use products with reduced or no formaldehyde introduced to its product.

Inadequate ventilation may allow formaldehyde and other contaminants to accumulate in indoor air. It is suggested that RV's that have been in storage and closed up for long periods of time be ventilated to reduce the exposure. Ventilation to dilute the indoor air may be obtained from a passive or mechanical ventilation system. Always be sure to thoroughly ventilate your recreational vehicle before and during each use.

Research is continuing on the possible long-term effects of exposure to formaldehyde. High indoor temperatures and humidity may raise formaldehyde levels When a recreational vehicle is in areas subject to high temperatures, an air conditioning system can be used to control indoor temperature levels

Reaction to formaldehyde exposure may vary among all ages of individuals and individuals with health issues. Eye, nose, and throat irritation, headache, nausea, and a variety of asthma-like symptoms, including shortness of breath have been reported as a result of formaldehyde exposure.

If you have any questions regarding the health effects of formaldehyde, consult your doctor or local health department.

2-10 MOLD, MOISTURE, and YOUR MOTOR HOME

What is Mold?

Molds are part of the natural environment. They are as old as the Earth itself and mold spores are almost everywhere at some level waiting to grow. Mold plays a part of nature by breaking down dead organic matter, such as fallen leaves and dead trees. Indoors however, mold growth should be avoided. Molds reproduce by means of tiny spores. Those spores are invisible to the naked eye and float throughout the outdoor and indoor air. Because of the nature of the use of a motorhome, it is natural for a motorhome to be introduced into an environment with mold spores.

Mold is a plant and requires its own special environment to grow. That environment includes organic materials, nutrients, moisture, and proper temperature.

How Can I Avoid Mold?
To reduce the ability for mold to grow, you must reduce what constitutes its growth environment. Mold can grow with the smallest of a nutrient base. Just small amounts of dirt or dust on the carpet can be enough to allow the mold process to begin. Keep the environment as clean as possible. Vacuum the carpet. Clean food spills thoroughly and quickly. Avoid grease buildup near the stove or sink. Clean the exhaust fan above the stove often. Minimize moisture in your motorhome and keep humidity low. Clean spills quickly. Do not allow condensation to build up. You can open windows and vents to minimize condensation.

Use of the air conditioner can assist in removing moisture from the air. Avoid leaks, but if leaks do occur, make repairs promptly. Avoid bringing mold into your motorhome. Plants, cloths, books, and other household items may already have mold present. It is easy to transfer mold into your motorhome environment.

Monitor your motorhome. Periodically check those hidden areas in comers, closets, and cabinets to assure mold is not present.

What if I Find Mold?
If mold develops, clean the area with a concentrate of soap and bleach. Items that contain mold that cannot be cleaned should be removed from the vehicle.

Can Mold Harm Me?
The effects of mold and airborne mold spores may cause irritation to some people. Experts disagree on the level of exposure that may cause health concerns.

If mold Is present, Renegade RV will determine if the mold is present in the Villagio motorhome as a result of a manufacturing defect reported to Renegade RV within the limited warranty period, Renegade RV will clean the affected area(s) and/or replace affected items as it deems necessary. This is the extent of coverage provided by Renegade RV. Renegade RV, however, will not assume responsibility for mold deemed to be a result of a motorhome user's lack of timely and appropriate action to mitigate circumstances should a problem occur.

If Renegade RV determines that mold is present due to conditions it determines is not a result of a manufacturing defect found within the warranty period, Renegade RV will not provide any financial assistance to the repair of the condition.

2-11 ROOF AND LADDERS

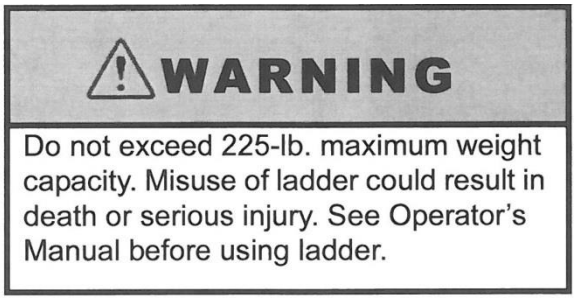
(If Equipped)

Stay off the roof. Roof surface may be slippery. Falling could result in death or serious injury.

The ladder on your motorhome is provided for limited access to the roof. Walking or working on the roof should be left to qualified service personnel using proper safety equipment in a safe environment. You should only walk or work on the roof if you are qualified and have created a safe environment. For your safety, it is not recommended that you store or carry items on the roof.

Before Using the Ladder
Inspect the ladder to make sure it is not damaged. Never use a damaged ladder. Keep the rungs of the ladder clean and dry while in use. Never use the ladder when it is raining, snowing, or icy. The rungs can become slippery. Do not step onto the rungs if the rungs are wet, or if your shoes are wet or carry mud or debris that could result in a loss of footing.

Never ignore warning labels or weight limits deemed on your ladder. The following warning label is located on or near the ladder:


WARNING
Do not exceed 225-lb. maximum weight capacity. Misuse of ladder could result in death or serious injury. See Operator's Manual before using ladder.

- ***Maximum Capacity: 225 lbs.***.
- ***Do not overload***. *Ladder is intended for one person.*
- ***Make sure you are physically capable*** *to safely use the ladder. Strength, flexibility, and stability are required. Be aware that the vehicle may sway as you climb the ladder.*
- ***Do not use the ladder in high winds***.
- *As you climb the ladder, grasp the side rails firmly and always use both hands. Keep your body centered between the side rails. Do not over-reach.*
- ***Never allow children on the ladder***.
- ***Do not transport items anchored to the ladder***. *You could damage the ladder.*

2-12 ROADSIDE EMERGENCY

Because of the size and weight of this vehicle and its tires, and the possible complications involved in tire changing, we strongly advise obtaining professional road service to change a flat tire whenever possible. However, if an emergency requires you to change the tire yourself, please exercise extreme caution and read all tire changing information in the chassis manual.

Never get beneath a vehicle that is held up by a jack only.

If You Get A Flat Tire

DO NOT panic. Grip the steering wheel firmly and steer the vehicle as straight as possible. Avoid quick maneuvers. You may need to counter-steer to compensate for "pull" created by the failed tire.

DO NOT stomp on the brake. This abruptly shifts the vehicle's weight forward, making it nose-dive and pull toward the blown-out side.

DO NOT jerk your foot off the accelerator. Just ease back on the accelerator slowly and gently to continue momentum. The deflated tire will slow the vehicle. If you must change lanes to get to a safe stopping place, use your signals to warn other motorists and change lanes smoothly and carefully after you are certain the lane is clear. Let the vehicle coast to a stop, gently steering to a safe stopping place off the traffic lanes of the road. Do not worry about damaging the tire or wheel rim by driving on it. A tire or wheel replacement is cheaper than damaging the vehicle or injuring yourself.

When you have come to a stop, activate your hazard flashers to warn other motorists, then exit the vehicle carefully.

Set out flares or other warning devices.

Check your tires for proper inflation before each trip and at least once a month with an accurate tire gauge.

Spare Tire Storage

If your coach is supplied with a spare tire, it may be fastened to the back wall. Some models, however, may have a swing down spare tire carrier beneath the rear of the coach. Please follow all safety warnings and instructions for removing spare tire from the carrier.

Recovery Towing

When calling a professional towing service,

we recommend that you advise them of your coach length and approximate front axle weight listed on your Vehicle Certification Label. This will allow the towing operator to determine the proper towing equipment to use.

Renegade RV does not assume responsibility for damage incurred while towing this vehicle.

NOTE: Consult your chassis manual for towing instructions or precautions provided by the chassis manufacturer.

NOTICE

Do not lift on bumper. Damage will result to front end body parts.

⚠WARNING

Stay out from beneath the motorhome while it is suspended by the towing assembly. Do not allow passengers to occupy a towed vehicle. Death or serious injury can result.

2-12 WHEEL MOUNTING NUTS

(LUG NUTS)

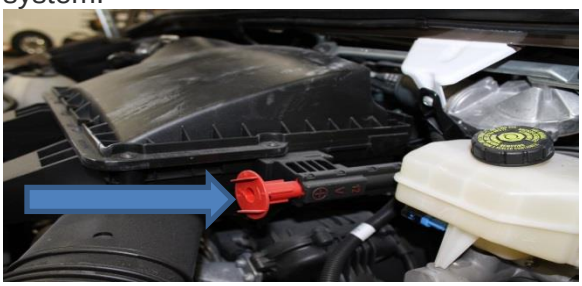
The mounting bolts and nuts for the standard steel wheels are designed specifically for the type of wheel.

Steel Wheels: The lug nut for steel wheels is a non-plated, hat-shaped, flange nut. The accompanying dome-shaped, split cone washer should be positioned "dome first" onto the wheel stud before the nut as shown.

Steel Wheel Lug Nut and Washer
(Hex Flange Nut with Split Cone Washer)

2-13 JUMP STARTING

If you wish to try jump starting the engine using another vehicle or booster system, see your chassis manual for connecting jumper cables to the automotive electrical system.



*Push **Red Cap** in to connect positive **(+)** Jumper cable to Motorhome*

NOTICE

Do not attempt to push start this vehicle. Damage to the transmission or other parts of the vehicle will occur.

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2-14 ENGINE OVERHEAT

If you see or hear steam escaping from the engine compartment or have any other reason to suspect an extreme engine overheating condition, pull the vehicle over to the roadside as soon as it is safe to do

so, stop the engine, and get all passengers out of the vehicle.

NOTICE
Operating a vehicle under a severe overheating condition can result in damage to the vehicle.

SECTION 3 - DRIVING YOUR MOTOR HOME

The information in this section refers only to features installed or adapted to the dash and driver compartment area by Renegade RV. It also includes passenger seating in the living area of the coach.

For further information see the chassis manual in your Info Case for all original chassis related controls, instrumentation, switches, and other features. This includes items such as cruise control, climate controls, gauges, wipers, lights, front seats, and three-point safety belts, etc.

3-1 SEATS - DRIVER/CO-PILOT

The driver and co-pilot seats may be independently adjusted to suit individual preference.

For further information see the chassis manual in your Info Case.

3-1 SEAT BELTS

Seats intended for occupancy while the vehicle is in motion are equipped with seat belts for the protection of the driver and passengers.

Coach Lap Belts

The lap belts must be worn as low as possible and fit snugly across the hip area. Always sit erect and well back into the seat. To gain full protection of the safety belt, never let more than one person use the same safety belt at any one time, and do not let the safety belts become damaged by pinching them in the doors or in the seat mechanism. After any serious accident, any seat belts which were in use at the time must be inspected and replaced if necessary.

1) Insert tab into buckle release
2) Pull strap to tighten Adjustment: To lengthen belt, swivel the tab end at a right angle to belt and pull strap to desired length. To shorten, pull loose end of belt.

To Fasten:
Be sure belt is not twisted. Grasp each part of the belt assembly and push tongueue into buckle. Adjust to a snug fit by pulling the loose end away from the tongueue.

To Release:
Press button in center of buckle and slide tongue out of buckle.

⚠ WARNING

Snug and low belt positions are essential. This will ensure that the force exerted by the lap belt in a collision is spread over the strong hip area and not across the abdomen, which could result in serious injury.
Only seats equipped with seat belts are to be occupied while vehicle is in motion.
Swivel seats must be in the locked, forward facing position while vehicle is in motion.

Lap/Shoulder Belts

See your chassis manual for instructions on proper fastening, adjustment, and releasing of lap/shoulder belts.

Seat Belt Care and Cleaning

Be careful not to damage the belt webbing and hardware. Take care not to pinch them in the seat or doors. Inspect the belts and hardware periodically. Check for cuts, frays, and loose parts. Damaged parts should be replaced.
Do not remove or modify the belt system. Keep belts clean and dry. If the belts need cleaning, use only a mild soap and water solution. Do not use hot water. Do not use abrasive cleaners, bleach, or dyes. These products may weaken the belts.
Replace any belt assembly that was used during a severe impact. Replace the complete assembly even if damage is not apparent.

3-2 CHILD RESTRAINTS (If Equipped)

A properly installed and secured child restraint system can help reduce the chance or severity of personal injury to a child in an accident or during a sudden maneuver. Children may have a greater chance of being injured in an accident if they are seated in a child restraint system which is not properly secured. A child restraint system is designed to be secured in a vehicle seat by a lap belt or the lap belt portion of a lap-shoulder belt. When purchasing a child restraint system, follow these guidelines:
1) Look for the label certifying that it meets all applicable safety standards.
2) Make sure that it will attach to your vehicle and restrain your child securely and conveniently so that you are able to install it correctly each time it is used.
3) Be certain that it is appropriate for the child's height, weight, and development. The instructions and/or the regulation label attached to the restraint typically provides this information.
4) Review the instructions for installation and use of the restraint. Be sure that you understand them fully and can install the restraint properly and safely in your vehicle.

Tether Anchor Loop (If equipped)

If your coach has a dinette, it may be equipped with a child seat tether anchor loop located on the floor directly behind the forward facing dinette seat.

NOTE: *The dinette table must be in the lowered position when a child seat is in use.*
1) Lower the dinette table.
2) Route the tether over the top of the dinette seat back and hook it to the anchor loop on the floor.
3) Fasten the lap belt.

For f*urther information see the child seat manufacturer's specific instructions for proper attachment and adjustment of the tether and seat belts*.

3-3 KEYS

Your motorhome is supplied with several keys. In addition to the chassis manufacturer's ignition key, you receive keys for the entrance door and exterior compartment doors. Keys have an identification number, either a small metal tag or stamped into the key head.

These numbers are recorded on the vehicle's component model/serial sheet, which is included in your Info Case. In case keys are lost or stolen, your dealer or a locksmith can provide you with duplicate keys or modify the locks.

REMOTE KEYLESS ENTRY
The Remote Keyless Entry system on the cab doors is chassis-supplied. However, we have also connected the coach entry door lock to this system. This means your key-less remote transmitter will lock and unlock the entry door as well as the cab doors. Make a habit of having the keys with you when you exit the vehicle and if opening the cab door first before opening the entry door whenever unlocking with the keyless remote.

For further information refer to the chassis manual provided in your Info Case for complete operating instructions.

3-4 HAZARD WARNING FLASHERS

The hazard warning flashers provide additional safety when the vehicle must be stopped on the side of the roadway and presents a possible hazard to other motorists. When the flashers are on, it serves as a warning to other drivers.

For further information see your chassis manual for instructions on activating, operating, and canceling hazard warning flashers.

3-5 AIR CONDITIONER/HEATER - AUTOMOTIVE (DASH)

See your chassis manual for operating information on driver and passenger comfort controls - air conditioner, heater, defroster, and ventilation.

NOTE: The dash air conditioner is not designed to cool the entire interior of the coach, but is intended only to provide cooling for the cab area.

3-6 RADIO IN-DASH/REARVIEW MONITOR SYSTEM (If Equipped)

The radio in your coach can receive AM/ FM stereo and weather band stations. It also has a compact disc (CD) player for your listening enjoyment through quality high-output speakers located in several areas of the coach.

This system is also featured with a rearview camera monitor system, which lets you see what is directly behind your coach for safety and maneuvering assistance. The viewing screen is integrated into the dash. The monitor screen "wakes up" automatically when transmission is shifted into reverse. A microphone built into the rear camera lets you hear warning sounds or verbal directions from an assistant.

Basic Operating Instructions
POWER ON/OFF – Push to tum ON or OFF. Push and Hold to tum screen OFF. Touch screen to tum back ON.
MENU - Press to access USER SETTING

MENU. Press and Hold to access SYSTEM SETUP MENU.
AUDIO - Press and Hold to access AUDIO MENU. Press to return to current playback mode.
CAM - Press to access CAMERA mode. Press and Hold to access CAMERA SETTINGS MENU.
MUTE - Press to MUTE audio.
EJECT - Press to EJECT CD.
DAY/NIGHT - Press to switch between stored DAY/NIGHT user settings Press and Hold to access AUTO DAY/NIGHT adjust
AUX IN - Connect portable audio player
USB - Connect a USB Jump Drive. NOT FOR IPOD CONTROLS.

Satellite Radio (If Equipped)
Your coach may be equipped with a Sirius® satellite radio receiver that plays through your radio. See the receiver manufacturer's information in your Info Case for programming and operating instructions.

iPod Cable
Your coach is equipped with a cable to connect your iPod to play through your dash radio. This cable is located in the glove compartment.

iPod Cable (Located in the glove compartment) -Typical Installation
See the manufacturer's information in your Info Case for operating instructions.

Radio Remote Control
A hand-held remote control for the radio lets you change radio stations or CD selections from a distance for your convenience. The remote control is included in your Info Case.

Radio Power Switch
The Radio Power switch on the dash lets you connect the dash radio to the coach batteries when the ignition switch turned off for listening while parked. This prevents accidental draining of the chassis battery by prolonged use of the radio.

NOTE: The House/Coach Battery Disconnect switch must be ON while listening to the dash radio, as the audio relay is powered by house batteries. If the House/Coach Battery Disconnect switch is OFF, the speakers will not emit sound.

Radio Power Switch (Located on dash)
• Press HOUSE to listen to the radio while parked without the ignition key on.
• Press ENGINE to listen while driving.

For further information see the manufacturer's user guide provided in your Info Case for complete operating instructions.

3-6 RADIO - IN-DASH (If equipped)

The radio in your coach can receive AM/FM stereo and weather band stations. It also has a compact disc (CD) player for your listening enjoyment through quality high-output speakers located in several areas of the coach. Please refer to the manufacturer's operating guide in your Info Case for detailed instructions on programming preset station buttons and using this full-featured radio/audio system.

3-7 BATTERY BOOST SWITCH

(If equipped)
The Battery Boost switch can be used to draw emergency starting power from the house batteries to start the engine if the chassis battery is discharged.

Press and Hold the Battery Boost switch in the ON position while turning ignition key for emergency starting power.

NOTE: The House/Coach Battery Disconnect switch near the entrance door must be ON and house batteries must be sufficiently charged for this feature to work.

3-8 ENGINE COOLING SYSTEM

Do not remove the radiator cap while engine and radiator are still hot. Always check coolant level visually at the see-through coolant reservoir.

NOTE: Your chassis engine cooling system is filled with special extended-life coolant that is not the same as common antifreeze available at retail outlets. The coolant system MUST be refilled or topped up with the same type of coolant as equipped to maintain the special long life properties.

For further information refer to the chassis manual in your Info Case for information and precautions on filling, servicing, and checking the fluid level.

3-8 DIESEL EXHAUST FLUID FILL

The Diesel Exhaust Fluid Fill is located under the front hood.

NOTE: Use only certified diesel exhaust fluid (DEF) in the Diesel Exhaust Fluid Fill tank.

For further information refer to the chassis manual provided in your Info Case for complete information and precautions.

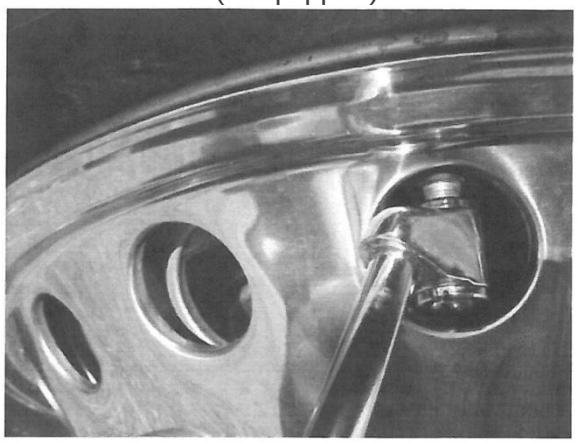
3-9 LIGHTS

All exterior lights should be checked for proper operation each time the vehicle is prepared for a trip. Any bulbs which fail to light should be checked and replaced, when necessary, with a new bulb of the same size. A failure of more than one light, such as both taillights not operating, may indicate a burned out fuse. Check fuse and replace with one of the same rating when necessary. If a fuse is not the cause of the problem, the wiring system should be checked immediately by an authorized service center.

For further information refer to the chassis manual in your Info Case.

3-10 VALVE-STEM ACCESS

(Mercedes-Benz® Sprinter Chassis)
Front Wheel Valve Stem Access on 18-Hole Steel Wheel with Push-On Full Wheel Trim (If equipped)



1. Obtain a double angle push/pull truck tire gauge.
2. Locate the 6" hose extension (provided in your Info Case).
3. Push the end of the hose extension onto the front wheel valve stem cap.
4. Using the hose extension as a remote handle, unscrew the valve stem cap (retaining cap in the end of the hose extension).
5. Adequate clearance is available to insert the tire gauge onto valve stem.

6. When tire pressure testing is complete, reinstall the valve stem cap (with the cap still retained in the hose extension end).
7. Remove hose extension from valve stem cap.

Rear Inner Dual Valve Stem Access on 18-Hole Steel Wheel with Push On Full Wheel Trim (If equipped)

1. Obtain a double angle push/pull truck tire gauge.
2. Locate the 6" hose extension (provided in your Info Case).
3. Push the end of the hose extension onto the rear inner dual valve stem cap.
4. Using the hose extension as a remote handle, unscrew the valve stem cap (retaining cap in the end of the hose extension).

NOTE: If the valve stem cap and valve stem extension unscrew as an assembly, pull the assembly out of the hose extension end, remove valve stem cap, insert extension into fuel hose, and reinstall extension onto valve stem until snug. Pull off extension hose and re-insert valve stem cap into end of hose.

5. To check inner dual tire pressure, use the long handle of the tire gauge to control alignment and avoid misaligned valve stem deflection.
6. When tire pressure testing is complete, reinstall the valve stem cap (with the cap still retained in the hose extension end).
7. Remove hose extension from valve stem cap.

Rear Outer Dual Valve Stem Access

NOTE: Rear Outer Dual is equipped with a fill through extension (no valve stem cap).

1. Obtain a double angle push/pull truck tire gauge.
2. To check rear outer dual tire pressure, use the long handle of the tire gauge to control alignment on the fill-through extension.

3-10 TIRES

Improper tire pressure can result in tire overloading and abnormal wear and also affects handling, ride characteristics, and fuel economy.

WARNING

Make sure all replacement tires are of the same size and rating as those shown on your Vehicle Certification Label.

3-10 SUSPENSION ALIGNMENT AND TIRE BALANCE

The front suspension and steering system of this vehicle was factory aligned using highly accurate equipment prior to delivery to the dealership. However, alignment should be checked and adjusted after you have fully loaded the motorhome according to your personal needs. Thereafter, the alignment should be periodically inspected to help prevent uneven tire wear. Any excessive or abnormal tire wear may indicate worn or misaligned suspension or steering, unbalanced tire, or other tire/suspension problem.

Alignment can be affected by worn steering/ suspension parts or by incidents which happen during driving, such as hitting a curb, pothole, log railroad track, etc. Improper alignment can cause tires to roll at an angle and wear unevenly. It may also cause the vehicle to "pull" to the right or left. Have your dealer inspect your vehicle's suspension and steering components periodically for misalignment or wear. Out-of-balance tires will not roll smoothly and can lead to vibrations and uneven tread wear, such as cupping and flat spots. Tires may need to be balanced if uneven wear is detected or if ride comfort decreases noticeably.

For further information see the chassis manual in your Info Case.

SECTION 4 – APPLIANCES AND SYSTEMS

The appliances installed in your motorhome are manufactured by reputable RV appliance makers and have been tested by independent laboratories to meet all applicable standards and codes set for RV appliances.

See Section 2 - Safety and Precautions of this annual for any safety and precautions you need to take regarding the operation of your appliances.

4-1 REFRIGERATOR

The refrigerator in your coach can operate from either of two energy sources available to the motorhome:

1) 120-Volt AC Electric
2) Propane Gas

To be able to use both types of energy, the refrigerator does not have a compressor like household refrigerators. Instead, it uses an ammonia-water solution for cooling. Basically, ammonia vapor is distilled from the solution by heat produced from either propane gas flame or electrical heat element. The ammonia vapor is then carried to the finned condenser where it liquefies. The liquid then flows to an evaporator where it creates cooling by evaporation. The ammonia circulates back into the water solution and the cooling cycle continues.

Leveling

Before operating the refrigerator when the motorhome is stationary, place a small level on the bottom of the refrigerator and make certain the unit is level. If over 1/2 of the bubble is inside the circle in any direction, the coach is level enough for continuous operation of the refrigerator while parked.

NOTICE: To prevent permanent damage to the refrigerator cooling unit, turn the refrigerator off if the vehicle will be parked on an incline of over 3° side-to-side or 6° front-to-rear (such as steep driveways or parking lots, etc.) for more than one hour.

Basic Operation

Slide the control switches to the operating positions described and observe the indicator lights.

Gas - Refrigerator will operate on gas from the propane tank if the main valve is open and the tank contains gas.

Auto - Refrigerator will operate on 120-VAC household current if the shoreline is connected or the auxiliary generator is running. If electricity is lost, it will automatically switch over to Gas operation if gas is available.

Temperature Setting - Start at the coldest setting to ensure coldest temperature in the freezer compartment, then adjust warmer as necessary after cold* food has been added.
"On" Indicator Light - Glows steady when refrigerator is operating properly.
"Gas" Indicator Light - Will flash if gas is

not available. To operate the refrigerator you must provide 120VAC then switch to Auto operation.

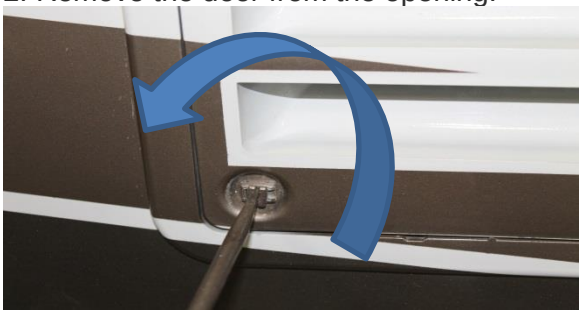
** The refrigerator will retain temperature more efficiently if food is cold before placing inside.*

For further information and operating cautions, see the refrigerator operating instructions included in your Info Case.

4-1 REFRIGERATOR SERVICE ACCESS COMPARTMENT

(Exterior)
The exterior refrigerator service compartment allows access to the rear of the refrigerator for inspection, maintenance, and service.

To Open
1. Use a screwdriver or coin to tum the latch knobs to the vertical position as shown.
2. Remove the door from the opening.



To Close
1. Replace the door into the opening.
2. Push the latch knobs in while turning to the horizontal position as shown.

4-2 RANGE TOP

The range in your motorhome operates on propane gas and will provide most of the functions of the range in your home.

To Light Range Top Burners
Raise the temp glass cover. Push in desired control knob and turn to IGNITE position - and maintaining the knob pushed in, press down on the spark pump a few times to light burners.

Avoiding Asphyxiation

The following warning label has been located in the cooking area to remind you to provide an adequate supply of fresh air for combustion:

⚠ WARNING

IT IS NOT SAFE TO USE COOKING APPLIANCES FOR COMFORT HEATING
Cooking appliances need fresh air for safe operation. Before operation:

1. Open overhead vent or turn on exhaust fan.
2. Open window.

FAILURE TO COMPLY COULD RESULT IN DEATH OR SERIOUS INJURY

FAILURE TO COMPLY COULD RESULT IN DEATH OR SERIOUS INJURY

Unlike homes, the amount of oxygen supply is limited due to the size of the recreational vehicle, and proper ventilation when using the cooking appliances avoids dangers of asphyxiation.

It is especially important that cooking appliances not be used for comfort heating, as the danger of asphyxiation is greater when the appliance is used for long periods of time.

⚠ WARNING

Portable fuel-burning equipment including wood and charcoal grills and stoves, shall not be used inside the recreational vehicle. The use of this equipment inside the recreational vehicle can cause fires or asphyxiation. Failure to comply could result in death or serious injury.

NOTICE

Turn off the range and allow it to cool before closing the range cover. The range cover is made of glass and may shatter when heated.

For further information refer to the appliance manufacturer's operation manual provided in your Info Case for complete features and operating instructions, as well as safety precautions and maintenance information.

4-3 MICROWAVE OVEN (If Equipped)

Refer to the manufacturer's user guide located inside the appliance for complete operating instructions.

4-4 RANGE HOOD (If equipped)

The range hood vent draws cooking odors and airborne grease particles into the filtration grid and either recirculates the air or vents it to the outside of the coach, depending on model. A light on the underside of the hood provides illumination for cooking and food preparation.

For further information see the manufacturer's user guide provided in your Info Case for instructions on replacement of light bulbs and replacement or cleaning of grease filter elements.

4-5 MONITOR PANEL

The Monitor Panel provides a convenient, central location for checking the condition of all utility systems in your coach.

At the touch of a button, the monitor panel will display the fresh water and holding tank levels, propane gas tank level, plus the chassis battery and house battery condition. You can start the generator and check the generator hour meter or tum on the water pump and water heater. Generator Start/Stop Switches and Hour meter (Not available on coaches equipped with a diesel generator)
See Section 6 - Electrical for generator startup/shut-down and generator hour meter instructions.

Gen Start-Gen Stop-Gen Hour meter
Typical - Your coach may or may not be equipped with all of the features shown above.
Water And Holding Tank Levels Press the Tank Levels switch to show approximate levels on the LCD screen.

Tank Levels Switch
The approximate fluid levels are measured by electronic sensors on the sides of the tanks. Tank levels are displayed as 1/3, 2/3, and Full (F).
There is generally more fluid in a tank than indicated on the monitor panel.

Sensors, Tank Capacities, Water Tank -Typical Villagio
See "Tank Capacities" in Section 1 - Introduction.

Propane Gas Level
Press the Tank Levels switch to show approximate propane tank level. The propane level is registered by a sending unit on the tank. The gauge mounted on the side of the tank will give a more accurate indication of actual tank level if needed.

Battery Charge Meter
Press the Battery Levels switch to check the level of charge (voltage) in the chassis and house batteries.

Battery Levels Switch
To get an accurate reading: Both the chassis engine and the generator engine must be shut off and 120-volt AC shoreline unplugged.

An interior light should be turned on to provide a small load which draws off the battery surface charge.

Water Heater Switches
See Water Heater information elsewhere in this section for operating instructions.

Water Pump Switch
When use of the self-contained water system is desired, press the Pump switch (press once to get to the desired screen, and a second time to activate or deactivate.) Water will be available as soon as a faucet is opened.

Water Pump Switch
Refer to Section 7 - Plumbing for additional information on the water pump and initial startup.

NOTE: *Some models may be equipped with a Water Pump switch in the water service center on the outside of the coach or within the bathroom area for your convenience.*

4-6 WATER HEATER – GAS/ ELECTRIC

The Gas/Electric Water Heater has a dual power feature. It can operate from propane gas or 120-volt house current, or it can use

both at the same time for quicker recovery at times when you are using a lot of hot water.

See the Water Heater manufacturer's operation manual provided in your Info ease for complete operating instructions, safety warnings, and maintenance information before operating the Water Heater.

Be sure the Water Heater is filled with water before starting either electric or propane gas operation. To fill the Water Heater, tum the Water Pump switch ON and open a hot water faucet anywhere in the coach. When water begins to flow steadily from the faucet, the Water Heater is full.

For Propane Gas Operation
Press the Water Heater LP switch to ON. The monitor panel display will indicate that the heater is "On". If the monitor panel display reads "Water Heat LP Fail", it means that the burner has gone into "lockout" mode and must be restarted. If this happens, tum the Water Heater LP switch off for about 5 minutes, then tum it back on.

Propane Gas Water Heater Switch
(Located on One Place® monitor panel)

For Electric Operation
Press the Water Heater Electric switch to ON. The shoreline must be connected or generator running for electric operation.
Electric Water Heater Switch (Located on One Place monitor panel)
For Quick Recovery Operation (Dual Heating)
Tum ON both Water Heater switches - propane gas and electric. This will help reheat the Water Heater tank more quickly than a single source would alone. Use this mode when you are using a larger than normal volume of hot water.

For further information see the Water Heater manufacturer's operation manual provided in your Info Case for complete operating instructions, safety warnings, and maintenance information.

4-7 PRESSURE - TEMPERATURE RELIEF VALVE

On occasion, water may be seen seeping from the water heater pressure temperature relief valve. This is no cause for repair or replacement of the valve.

Water Heater Exterior Service Access
Normally there is an air gap at the top of the water heater tank, which acts as a pressure buffer. In time, however, heated water may expand and fill this air gap, causing a slight increase in water pressure. This may cause the P-T valve to "weep" until the air gap is manually replaced.

⚠ CAUTION

Hot water can escape from tank causing injury. Operate this valve only when the water heater and engine cooling system are cold.

To Replace the Air Gap:
1. Tum off the Water Heater switch and incoming water supply (city water and/or demand pump).
2. Open a faucet in the motorhome to relieve water pressure.
3. Pull the handle of the P-T valve straight out and allow water to flow until it stops.
   - Lift handle straight out to open P-T valve when water heater is cold
4. Let the handle of the P-T valve snap shut.
5. Close the faucet and tum on the water supply before switching the water heater on.

Manually operate the pressure temperature relief valve at least once a year.

NOTE: If your water heater is equipped with the Motor aid system, it uses an extension from the engine cooling system to heat water in the water heater while driving. The engine cooling system must also be cold before opening the pressure

temperature relief valve. See "Moto raid Water Heater" for more information.

4-8 PROPANE GAS FURNACE

To Start Up

1. Open the Propane Gas Tank valve by turning fully "counter-clockwise".

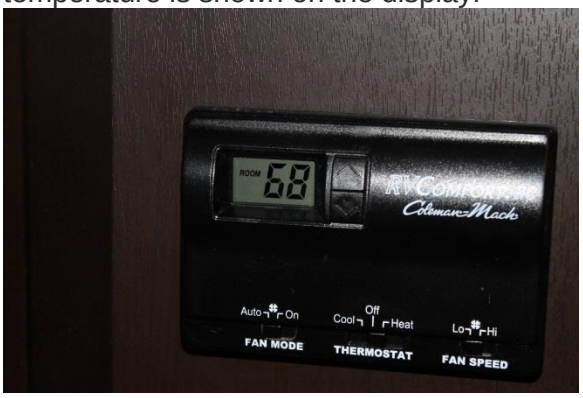
Thermostat Switch Temp Selector

• Move to Heat or Gas position for furnace operation

• Press up or down to select temperature

-Typical Villagio

2. Slide the Thermostat switch from Off to Heat and press the Temp Selector button (up/down arrows) until the desired temperature is shown on the display.



3. The furnace fan should start to blow immediately after setting the thermostat.
4. After approximately 30 seconds, the furnace burner should light.
5. The furnace should now cycle off and on automatically as the thermostat demands just like a household furnace.

NOTE: If heat does not come out of the heat ducts after a minute or so, the burner is not lit. Turn the thermostat off for 3-5 minutes, ensure Propane Gas Tank valve is open and tank is not empty, then repeat steps
2-4. If the furnace will not light after three Attempts (go to "Shut Down") and contact your dealer or a local RV service center for repair.

To Shut Down

1. Slide Thermostat switch to the Off position.
2. Close propane tank valve if coach will be stored for a period of time.

For further information refer to the manufacturer's user guide provided in your Info Case for further information, including operating precautions, and periodic maintenance. See "Coach Maintenance Chart" in Section 1 1 – Maintenance and Storage for recommended intervals.

NOTE: If the furnace burner has any residuals of metal protectant or lubricants used during manufacture of the furnace, it may smoke slightly when the furnace is used for the first time and may set off your smoke alarm. We recommend that you provide adequate ventilation when using the furnace for the first time to avoid a nuisance smoke alarm.

We do not recommend removing the smoke alarm battery.

4-8 HEAT PUMP –(If equipped)

Your coach may be equipped with an air source Heat Pump built into the air conditioning system. Because the Heat Pump operates on electricity, it provides economical heat inside your coach and helps reduce the use of propane gas for heating in cooler weather.
A Heat Pump can be thought of as an air conditioner running in reverse. An air conditioner absorbs heat from the air on the inside of the coach and moves it to the outside. The Heat Pump does exactly the opposite. Even cold air contains some heat, so a Heat Pump will extract heat from the outside air on a cold day and carry it to the inside of the coach to maintain a comfortable temperature.

The efficiency of a Heat Pump decreases as the outdoor air temperature drops, so supplementary heat is often needed when the outside temperature nears freezing. This system is set to automatically start the propane furnace to assist the Heat Pump if

room temperature cools to five degrees or more below the thermostat set temperature. You may wish to manually switch to furnace heat to maintain a higher temperature when outside temperatures begin to reduce the efficiency of the Heat Pump. The Heat Pump will not operate when the outside temperature falls below 36 degrees F.
To Operate the Heat Pump refer to the manufacturer's user guide provided in your Info Case for complete operating instructions.

- Gas Heat = Propane Furnace
- Elec. Heat = Heat Pump
- Cool = Roof Air Conditioner

Check Your Air Filter

Closed or blocked vents and a dirty air filter can hinder the efficiency of a Heat Pump.

- Ensure ceiling vents are open to distribute Heat Pump output air.
- *The A/C return air filter should be checked monthly for dirt build-up and cleaned or replaced as needed. See "Air Conditioner Filter" elsewhere in this section.*

4-9 DUCTED ROOF AIR CONDITIONING SYSTEM

The furnace thermostat also controls ducted roof air conditioner operation when the Thermostat switch is placed in "Cool" position. All cooling functions controlling to set point have a short cycle protection time delay of three minutes. There will be no delay if the cycle OFF time exceeds three minutes.

NOTE: *The ducted roof air conditioning system has ceiling registers that can be closed if necessary to force more cool air toward a specific area of the coach or to route cool air away from a specific area. If too many vents are closed, however, it can cause the air conditioner unit to shut down, particularly in high humidity conditions.*

For further information refer to the manufacturer's user guide provided in your Info Case for complete operating instructions.

A/C Filter access closed

AIR CONDITIONER FILTER

The washable foam air conditioner filter is located in the ceiling-mounted return A/C grille in the lounge area of the coach. It is recommended to check the filter monthly for dirt build-up and cleaned or replaced, as necessary.

Removal of A/C filter

SECTION 5 – PROPANE GAS PROPANE GAS SUPPLY

The propane gas system supplies fuel for the gas range/oven, water heater, furnace, and refrigerator (while in gas mode). When used and handled properly, this system is safe and economical and provides modem living conveniences wherever you travel.

See Section 2 of this manual for other Safety and precautions you need to be aware of related to propane.

How Propane Gas Works.
Propane is a type of LP (Liquefied Petroleum) gas compressed into liquid form for easy transportation and storage. Propane gas may also be called tank gas, bottle gas, or simply LP. Propane is used by appliances in vapor form only, but is stored in the tank as a liquid under very high pressure. As the liquid gas is released, it reverts back to a vapor and expands to many times its compressed volume.

Propane Tank System
The storage reservoir for the propane gas system is a horizontally mounted tank which is permanently attached to the vehicle frame. The tank is accessible only from the outside of the vehicle.

Propane Gas Tank
(Located under center of coach between the frame rails.)
-Typical Villagio

⚠WARNING

Do not alter or remove propane tank valves or gauge. Propane can escape, which can cause an explosion resulting in death or serious injury. Have the propane system serviced by a qualified service center.

Propane Gas Access
(Located in Generator compartment curb side of coach)

5-1 PROPANE GAS - Main Tank Valve Switch (located next to the Generator)

NOTE: Both switches must be ON to allow propane supply to the coach. Propane gas flow can be stopped by turning either switch OFF Tum switch OFF when propane gas supply is not needed to conserve house battery power.

Refilling Propane Tank
Since the propane tank is permanently mounted to the frame, the coach must be taken to a propane dealership for filling. Do not attempt to remove the propane tank from the vehicle. The tank is equipped with a fill adapter with both internal and external threads, which allows easy filling with any propane filling equipment. The tank is full when liquid propane gas appears at the overflow valve.

NOTE: The propane tank is equipped with an automatic 80% stop-fill device.

⚠ DANGER

DO NOT FILL CONTAINER TO MORE THAN 80 PERCENT OF CAPACITY. FAILURE TO COMPLY COULD RESULT IN A FIRE OR PERSONAL INJURY.
Make sure the motorhome is level when filling. It is possible to accidentally overfill the tank if the vehicle is not level, with the fill valve on the uphill side. Overfilling the propane gas tank can result in uncontrolled gas flow, which can cause fire or explosion. A properly filled container will contain approximately 80 percent of its volume as liquid propane gas.
All pilot lights must be extinguished and appliances and their ignitors turned off, and supply valve closed before refilling propane gas tanks or vehicle fuel tanks.
Do not smoke or expose an open flame while near a propane refueling area. Propane gas is heavier-than-air and extremely flammable.
Never fill the propane tank with engine or generator running.
Before opening the supply valve, check to be sure all controls for gas appliances are in the "Off" or "Pilot Off" position. If this step is not performed, propane gas could accumulate inside the motorhome creating a fire or explosion hazard.
Never use an open flame to test for propane gas leaks.
Replace all protective covers and caps on propane system before filling.

Selecting Propane Fuel Types

We recommend using straight propane in your propane tank. Propane gas is commonly available at all propane gas outlets in the U. S. (According to the National Propane Gas Association, propane gas outlets in the United States do not offer any other type of liquefied petroleum gas than propane to the general public.)

NOTE: If you travel outside the U.S with your motorhome, you may find butane or propane/butane mixtures available in addition to propane. Because gas burning RV appliances are designed to run on propane only, we recommend that you request straight propane only. Butane burns about 30 percent hotter than propane and can overheat some appliances, particularly refrigerators, and cause permanent damage. Other appliances designed to operate on propane can become sooted and lose efficiency by using butane fuel.

Air in the Propane Gas Tank

If your gas appliances do not stay lit or require frequent adjustment, even though you know the propane tank contains sufficient fuel, the problem may be air in the propane gas tank. Air in the tank mixes with the propane gas vapors causing them to burn poorly. This condition could linger for weeks if the air is not purged from the tank. Most propane gas dealers have equipment for purging air from propane gas tanks and will purge before refilling the tank.

5-2 SAFE USE OF THE PROPANE GAS SYSTEM

The propane system is designed and built with strict adherence to national, state, and recreational vehicle industry requirements for mobile propane gas equipment. For your safety, there are many safety devices and backup systems installed, such as tank fill overflow valves, an interior propane gas detector/ alarm, and an interior carbon monoxide (CO) detector/ alarm.

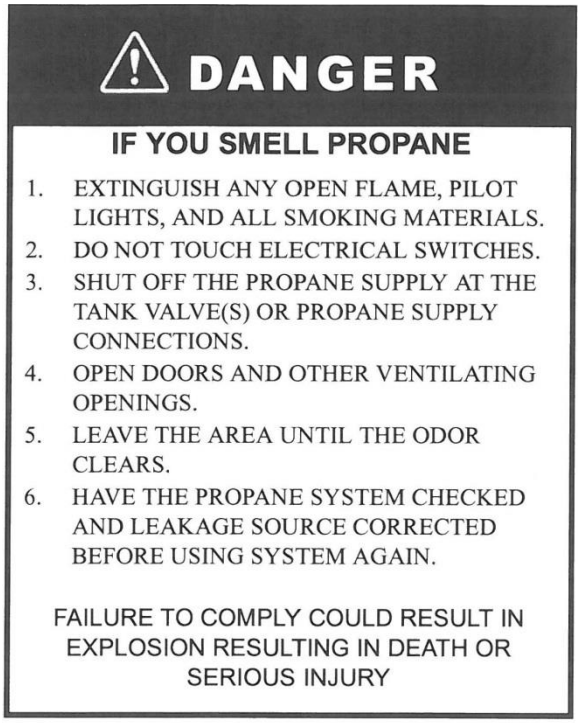
Propane gas also contains an odor additive that you can smell if propane is present in the air. Here are a few precautions to observe that will help you to use the propane gas system safely:

1) Exercise caution at all times. Be familiar with the distinctive odor of propane gas. If a leak is suspected, tum off the supply valve immediately. Have the propane gas system checked by your dealer or other qualified propane gas service center.
2) Do not tamper with the propane gas piping system, pressure regulator, or gas appliances.
3) Service and maintenance of propane gas system components should be performed only by your dealer or a qualified propane gas service center.
4) Never attempt to connect natural gas to the propane gas system.
5) Have the entire propane gas system inspected for possible leaks and missing or damaged parts at each tank filling. Also inspect before and after each trip, and any time trouble is suspected.
6) Tum the propane supply valve off when not using the propane gas system.
7) Never use a wrench to tighten the tank supply valve. It is designed to close leak-tight by hand. If a wrench is required to completely lose the valve, it is defective and must be replaced.
8) Be sure appliance and outside vents are open and free from obstruction when using the propane gas system.
9) Never attach a lock or any device requiring a key to the propane tank compartment door. According to standards set for recreation vehicles, the propane supply valve must be readily accessible in an emergency.
10) Exercise caution when drilling holes or attaching objects to the walls. Gas lines and electrical wiring could be seriously damaged and present an extreme safety hazard.

5-3 PROPANE GAS WARNINGS AND PRECAUTIONS

It is illegal for vehicles equipped with propane tanks to travel on certain roadways or through certain tunnels in the U. S. To avoid inconvenience, check state regulations concerning flammable gas transportation.

The following label is located in the vehicle near the range area. If you smell gas within the vehicle, quickly and carefully perform the procedures listed.


DANGER
IF YOU SMELL PROPANE
1. EXTINGUISH ANY OPEN FLAME, PILOT LIGHTS, AND ALL SMOKING MATERIALS.
2. DO NOT TOUCH ELECTRICAL SWITCHES.
3. SHUT OFF THE PROPANE SUPPLY AT THE TANK VALVE(S) OR PROPANE SUPPLY CONNECTIONS.
4. OPEN DOORS AND OTHER VENTILATING OPENINGS.
5. LEAVE THE AREA UNTIL THE ODOR CLEARS.
6. HAVE THE PROPANE SYSTEM CHECKED AND LEAKAGE SOURCE CORRECTED BEFORE USING SYSTEM AGAIN.
FAILURE TO COMPLY COULD RESULT IN EXPLOSION RESULTING IN DEATH OR SERIOUS INJURY

All pilot lights must be extinguished and appliances and their igniters turned off while refilling the fuel tank or propane tank.

Never smoke while refilling vehicle fuel tank or propane gas tank.

Avoid inhaling exhaust gases produced by burned gasoline, diesel fuel, or propane gas in items such as the range, chassis engine, generator engine, refrigerator, furnace, and water heater. They contain carbon monoxide, which is an odorless, colorless, and poisonous gas.

Propane cylinders shall not be placed or stored inside the vehicle. Propane cylinders are equipped with safety devices that relieve pressure by

discharging propane to the atmosphere. Failure to comply could result in death or serious injury.

Never use an open flame to test for propane gas leaks. Replace all protective covers and caps on propane system after filling. Make sure valve is closed and door latched securely. Portable fuel-burning equipment, including wood and charcoal grills and stoves, shall not be used inside the recreational vehicle. The use of this equipment inside the recreational vehicle may cause fires or asphyxiation. Regulators are equipped with a protective cover. Make sure that the regulator vent faces downward and that the cover is kept in place to minimize vent blockage, which could result in excessive gas pressure causing fire or explosion.

5-4 PROPANE GAS PRESSURE REGULATOR

The pressure regulator is protected from the elements by a plastic cover, which should be left in place at all times.

Propane regulators must always be installed with the regulator vents facing downward. Regulators that are not in compartments have been equipped with a protective cover. Make sure that the regulator vent faces downward and that the cover is kept in place to minimize vent blockage that could result in excessive propane pressure causing fire or explosion.

Only your dealer or a qualified propane gas service should remove the regulator cover for adjustments.

Visually inspect the pressure regulator vent periodically for blockage by accumulated debris or insect nests, etc. Vent obstruction could result in excessive pressure causing fire or explosion, which could result in death or serious injury. If an obstruction exists, have the regulator serviced by a qualified service center.

Look up inside hole on underside of regulator housing to see vent screen

Regulator Freeze-up

Be sure vent hole is not blocked. Regulator freeze-ups are caused by the presence of moisture in fuel. This moisture will pass through the cylinder valve and into the regulator where it can freeze. Fuel producers, tank and bottle manufacturers, and propane gas dealers take every precaution to reduce moisture, but sometimes only a fraction of an ounce entering the tank can cause problems. To help avoid the possibility of freeze-up, always keep tank control valve closed when not in use, even when tank is empty, to prevent moisture from collecting on the inside.

If regulator freeze-up should occur, you may attempt to thaw the regulator using a light bulb.

DO NOT USE AN OPEN FLAME OR HEAT LAMP.

If moisture begins to cause problems, have your propane gas dealer inject a small amount of dry methyl alcohol in your tank (approximately one ounce to 20 pounds or one pint to 100 gallons) to help guard against regulator freeze ups.

5-5 PROPANE VAPORIZATION IN COLD WEATHER

Propane gas vaporization increases and decreases in direct relation to ambient temperature. In other words, the lower the temperature, the slower the liquid propane will vaporize into a usable gas for appliances.

This means that in extremely cold weather when a large volume of gas is being used

by the furnace for heating, it is possible to experience a loss of gas pressure.

At first, this problem may appear to be caused by an empty tank or a regulator freeze-up, but is actually caused by failure of the liquid gas to vaporize as fast as it is needed by the furnace. The demand for propane to produce heat increases to the point where the gas cannot vaporize fast enough to keep the furnace going. The only solution to this problem is to reduce gas usage where possible.

Adjusting the temperature on the gas/electric refrigerator may be a first step. Using less hot water will also help, as well as refraining from using the gas cooktop. A final step is to lower the thermostat setting to reduce gas usage by the furnace.

SECTION 6 – ELECTRICAL

Your coach is equipped with an electrical system consisting of two separate voltages: 12-volt DC system (battery current); and 120-volt AC system (household current) The 12-volt system consists of two internal power sources, while the 120-volt system is operated from an outside power source or the optional 120-volt generator.

6-1 ELECTRICAL CAUTIONS

Careless handling of electrical components can be fatal. Never touch or use electrical components or appliances while feet are bare, while hands are wet, or while standing in water or on wet ground. Improper grounding of the vehicle can cause personal injury. Do not plug the utility power cord into an outlet which is not grounded and do not adapt the plug to connect to a receptacle for which it is not designed. Do not attach an extension cord to the utility power cord. Be sure that all electrical appliances to be used contain 3-prong plugs for proper grounding. Avoid overloading electrical circuits. Replace fuses or circuit breakers with those of the same size and amperage rating only. **Never** use a higher rated fuse or breaker. Use caution when handling or working near electrical storage batteries. Always remove jewelry and wear protective clothing and eye covering. Avoid creating sparks.

6-1 ELECTRICAL SYSTEM - HOUSE 120-VOLT A/C

The 120-volt system operates from the shoreline cord connected to an outside 120-volt utility service, such as those at campgrounds or from the 120-volt generator. When the shoreline cord is connected to an outside power source, or when the auxiliary electric generator is running, the power converter automatically changes a portion of the 120-volt current to 12-volt DC current. All equipment in the motorhome that is normally powered by the house batteries is then powered through the converter. In addition, the following equipment is entirely dependent on 120-volt current: air conditioner, refrigerator (when placed in AC mode), microwave oven, and any 120-volt electrical equipment used at convenience outlets.

6-1 EXTERNAL POWER CORD (Shoreline)

⚠ WARNING

Do not use an extension cord. Improper sized cords, damaged cords, and poor connections can lead to fire, which can result in death or serious injury.

⚠ WARNING

Do not connect the external power cord to any receptacle until you have verified proper polarity and grounding. Be sure all prongs of the supply cord are properly plugged into the receptacle. Failure to observe can result in death or serious injury.

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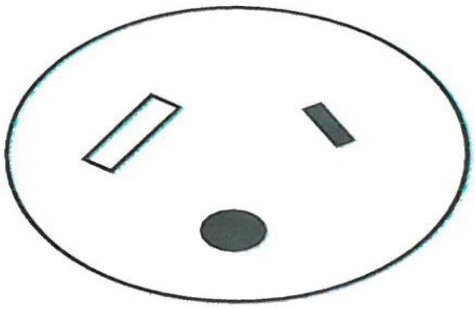
30 Amp Receptacle

The power cord is designed to ground the electrical system through the receptacle. It is also designed to carry the amperage output of most campground outlets. If the electrical receptacle to be used is designed to mate with the prongs of the power cord plug, the electrical connection can be expected to carry rated load.



30 Amp Receptacle

Power Cord Door
A flip-up notch in the power cord door lets you route the power cord out of the compartment and close the door while the power cord is connected.

• Swivel the cover section upward to access the cord notch
• Route power cord through notch and close door while shoreline is connected to outlet

NOTE: Always keep service access passage closed while utility connection is not in use.

50 Amp Receptacle

50 Amp Cord
The power cord is designed to ground the electrical system through the receptacle. It is also designed to carry the amperage output of most campground outlets. If the electrical receptacle to be used is designed to mate with the prongs of the power cord plug, the electrical connection can be expected to carry rated load.

Park Fuses or Breakers
Most campgrounds are equipped with a fuse or circuit breaker at the receptacle (which we recommend shutting off before engaging or disengaging the power cord.) This protects the park's wiring, as well as the power cord on your vehicle from electrical damage. If electrical power fails, contact the park attendants and have them check the fuse or breaker for your supply receptacle.

6-2 INVERTER UNIT - 1000W

-(If equipped)
The inverter unit is located on the wall of the utility compartment.

NOTE: The inverter is not intended for steady use while "dry camping". Batteries will deplete quickly with use of the inverter. The inverter is intended for limited, short term power usage when not connected to shoreline or generator power. The inverter can also be used while driving the motorhome because the engine alternator will charge the batteries while driving.

Inverter Charger Unit
(Located inside utility compartment)
-Typical Villagio

NOTICE
Do not store items too closely around the inverter unit in the storage compartment. The inverter generates heat while operating and needs unrestricted airflow for proper cooling. Damage to the inverter can result.

The inverter changes 1 2-volt DC battery power into 1 20-volt AC power for use by 1 20- volt AC equipment inside the coach.

NOTE: Do not leave the shoreline plugged in during storage. Follow regular battery inspection and maintenance.

Inverter Control Panel (If equipped)
The inverter has a wall-mounted monitor/ control panel. It will also display warnings for overload conditions or other operating failure conditions.

Inverter Control Panel (Located near monitor panel)
When the inverter is not being used, it should be shut off at the control panel. The inverter could drain the house batteries if the shoreline is not connected to external power and the House/ Coach Battery Disconnect switch is on. Further Information
See the inverter control panel instructions in your Info Case for complete instructions and charging setup directions.

6-3 POWER CENTER (Converter)

The power converter is generally located in a lower cabinet face in the galley or living area, depending on the floor plan of your model. The converter power panel contains the house electrical system 120-volt circuit breakers and 12-volt fuses.
The power converter changes 120-volt AC current from the auxiliary generator or the shoreline into 12-volt DC current for use by 12-volt equipment in the motorhome.

120-Volt Circuit Breakers; 12-Volt House Fuses Power Center (Converter)
-Typical Villagio

Certain circuits, however, remain unchanged for use by items which require 120-volt current, such as the air conditioner(s), the refrigerator in AC mode, the microwave oven, etc.

NOTE: The converter will not change 12-volt D C current to 120-volt AC. Current drawn from the house batteries passes through the power converter unchanged, although it is routed through a series of protective fuses located on the power panel.

NOTICE

Do not block the converter cover vents in any way. The converter generates heat while operating and needs unrestricted airflow for proper cooling. Damage to the converter can result.

For further information see the manufacturer's operation, care, and maintenance information provided in your Info Case.

Charging Section

The converter charges house batteries while 120-volt external power is connected. The converter will automatically "sense" the condition of the battery. If it is below "full charge", the Charging Section will start charging the batteries. If the house batteries have been extremely discharged, they will accept charge at a relatively high amperage rate. If they are only slightly discharged, they will charge at a lower amperage rate. The rate of charge will decrease as the batteries reach "full charge", then will continue "trickle" charging at a very low amperage rate. If your battery does not charge as described above, it is possible the battery is defective.

Thermal Overload
A thermal overload will "break" the 1 20-volt AC power to the converter section of the Power Center if the power converter becomes overheated. This can result from operating above its maximum limit for an extended period of time or by obstruction of ventilation to unit.

NOTE: The power converter section will

automatically route 12-volt lights and motors to house battery power in this event.

The thermal overload will reset itself after a period of time, and the lights and motors will again resume operation from the power converter section. If the breaker trips again shortly after reset, take immediate steps to correct the cause of overheating. A portion of the house 12-volt load (lights or motors or both) should be turned off to reduce total load. Also, inspect the power converter to make sure ventilation is not obstructed.

6-4 CIRCUIT BREAKERS - HOUSE 120-VOLT AC

The breaker panel protects all l 20-volt components in the motorhome from either an overload on the circuit or a short in the wiring or component itself. When an overload or short develops, the breaker will open preventing damage to the system. Shut off the equipment (example: roof air conditioner) and allow a brief cooling period. Then reset the breaker by moving the switch to "Off' and back to "On". If the breaker is continually tripped and no overload is evident, have the system checked for a short in the wiring or the appliances.

NOTE: Typical view of breaker panel. Breaker arrangement may vary according to appliance and equipment options. Fuses and breakers are labeled on panel.

6-4 ELECTRICAL OUTLETS -HOUSE 120-VOLT AC

A number of standard household electrical outlets are provided throughout the coach for connecting small appliances such as televisions, radios, toasters, etc. An exterior outlet is also located on the outside of the coach near the entrance door or in a storage compartment on the passenger side of the coach.

6-4 GROUND FAULT CIRCUIT INTERRUPTER

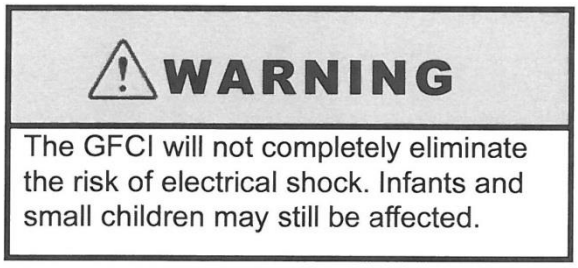
Bath, galley, and exterior outlets are connected to a GFCI (Ground Fault Circuit Interrupter), which is an extremely sensitive circuit breaker that will help to protect against severe electrical shock if a ground fault develops. If such a condition occurs, the GFCI will break the circuit by turning off the power to the protected outlets. Should this occur, unplug all the appliances on that circuit and press the reset button on the GFCI equipped outlet.

If the GFCI keeps tripping, have the electrical system checked and repaired, if necessary, before using again. GFCI Outlet (Ground Fault Protector)

• Push to Reset circuit after monthly testing or ground fault tripping.

• Push to Test at least monthly.

Should break circuit. *Press Reset button to reconnect.*


WARNING
The GFCI will not completely eliminate the risk of electrical shock. Infants and small children may still be affected.

6-4 ELECTRICAL
GENERATOR -120-VOLT

⚠WARNING

Careless handling of the generator and electrical components can be fatal. Never touch electrical leads or appliances when your hands are wet, or when standing in water or on wet ground. Do not attempt to repair the generator yourself. Service should be performed by a qualified service center.

To use the 120-volt Generator, plug the power cord into the Generator receptacle within the utility compartment before starting the Generator. Generator Receptacle Power Cord

⚠WARNING

Do not plug the power cord into the generator receptacle while the generator is running. Electrical shock can cause personal injury.

Generator Basic Operation (LP Generator)

NOTE: If the Gen Set Start or Stop switch is momentarily pressed, the monitor panel will automatically try to start or stop the generator.

Refer to the manufacturer s user guide provided in your Info Case for additional information.

To Start the Generator

Press and Hold the Gen Set Start button until you hear the Generator running smoothly, then release.

To Stop the Generator

Press and Hold the Gen Set Stop button until you hear the Generator come to a full stop, then release.

LP Generator Start/Stop Buttons
(Located on monitor panel)
-Typical Villagio

Generator Hour meter

The Generator hour meter registers the total number of hours that the Generator has been operated. Press the Gen Set Meter button once to get reading.

Refer to the hour meter to determine when periodic maintenance is due and to record services which have been performed.

Generator Hour meter Button
-Typical Villagio

Generator Basic Operation (Diesel Generator)

To Start the Generator

Press the Display ON/Gen OFF button once to wake the Generator.
Once "GEN OFF" appears on the display screen, press and Hold the Generator Start button until you hear the Generator running smoothly, then release.

To Stop the Generator

Press the Display ON/Gen OFF button.
Diesel Generator Start/Stop Buttons
(Located near monitor panel)
-Typical Villagio

The Diesel Generator display screen displays the Generator status, battery voltage, warning messages, and the total number of hours that the Generator has been operated. Refer to the hour meter to determine when periodic maintenance is

due and to record services which have been performed.

Operation Warnings and Cautions

WARNING

The exhaust of all internal combustion engines contains carbon monoxide (CO). This poisonous gas is colorless, odorless, tasteless, and lighter than air. The exhaust systems of both your motorhome engine and your generator engine have been installed with your safety in mind. However, certain precautions must be taken when using them to protect yourself from conditions beyond the control of the manufacturer.

- Do not simultaneously operate the Generator and a power vent, which could draw exhaust gases into the vehicle.
- Do not open windows or vents on the end or side of the vehicle where exhaust pipe of the Generator is located.
- Park the vehicle so that the wind will carry the exhaust away from the vehicle. Also, note the position of other vehicles to be sure their exhaust will not enter your vehicle.
- Do not operate the Generator engine while parked if vegetation, snow, buildings, vehicles, or any other object can deflect the exhaust under or into the vehicle. Check Generator oil level frequently during periods of use. Refer to the Generator manufacturer's user guide provided in your Info Case for specific recommendations.

For further information refer to the Generator manufacturer's user guide provided in your Info Case for specific recommendations, operating instructions and cautions, troubleshooting, and maintenance.

ELECTRICAL SYSTEM - HOUSE 12-VOLT DC

The DC voltage system consists of the chassis battery, the 12-volt house batteries, and the 12-volt power converter.

Converter; See "Power Center."

Chassis Battery

The chassis battery is used to operate the engine starter and automotive accessories and controls found on the instrument panel. The slide out room systems and the electric step are also connected to the chassis battery.

See your chassis manual for further information on chassis batteries and chassis electrical system.

House Battery

House battery is a "deep-cycle" type battery specially designed for recreational vehicle use. They will provide longer lasting power than standard automotive starting batteries and will withstand the frequent drain-and recharge cycles that occur under the demanding conditions of a camping outing.

The house batteries supply power to 12-volt equipment located in the living area of the motorhome. This includes the following 12-volt powered components (if equipped): interior 12-volt lighting, range exhaust fan, propane furnace fan, fresh water pump, systems monitor panel, refrigerator, roof vent fans, and 120-volt electrical generator starter.

The house battery can also provide emergency power to start the engine if the chassis battery is discharged. See section 2-13 Jump Starting

House battery are automatically charged by the chassis alternator while the engine is running.

6-5 HOUSE/COACH BATTERY DISCONNECT SWITCH (Coach battery)

The House/Coach Battery Disconnect switch lets you disconnect the house batteries from the 12-volt system of your coach during storage periods to avoid battery drain by electrical items that are hooked directly to the house batteries, such as clock displays and radio memories, etc. Always leave this switch ON while using the coach.

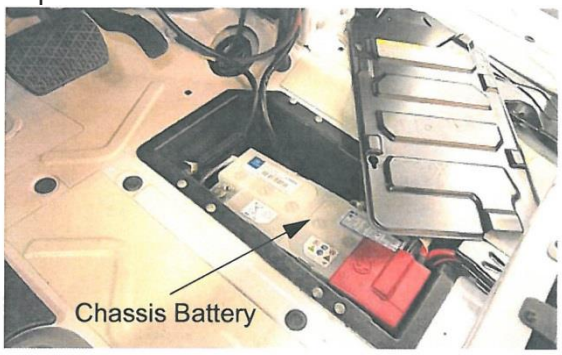
NOTE: Some electronic displays and memory functions may need to be reset after power has been reconnected.
See also "Battery Care" elsewhere in this section.

House/Coach Battery Disconnect Switch (Located on the monitor control panel)

6-6 BATTERY ACCESS

House Batteries
The house battery is located under the hood on the driver side.

Chassis Battery
The chassis (starting) battery is located in a compartment "well" in the floor beneath carpet ahead of the driver seat.



Chassis Battery Connector The chassis battery connector is located to the right of the accelerator pedal in the driver side foot well.

NOTE: ***Ensure that the ignition key is in the "Off" position and the key is removed, and wait 10 minutes before disconnecting****.*

For further information see the chassis manual provided in your Info Case for details on access and servicing.

NOTICE
Always refasten battery retainers when returning a battery to the compartment.

6-6 BATTERY CARE

Lead-acid type batteries are electro-chemical devices for storing and releasing electrical charge. As such, they are simply an electrical reservoir, not an electrical source. As soon as energy is removed from the battery, it should be replaced by the engine alternator or the coach converter system. If a battery sits unused for 30 days or more, especially during warm weather, it can develop a deposit of sulfate crystals on the metal plates inside the battery. This condition is called "sulfating" and prevents the battery from either releasing or accepting a charge. If this condition occurs, the battery must be replaced.
If a battery does not contain at least 80% charge during freezing temperatures, the electrolyte can freeze and crack the battery case.

The two best defenses against sulfating and insufficient charge are to:

1. Tum off the House/Coach Battery Disconnect switch to avoid parasitic discharge (the trickle discharge caused by directly connected components like propane gas detectors or digital clock displays, etc.)
2. Check the battery and recharge as necessary at least once a month during long storage periods. Tum the House/Coach Battery Disconnect switch off to avoid electrical arcing when attaching or detaching charger clamps.

⚠ WARNING

California Proposition 65 Warning: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer and reproductive harm. Wash hands after handling.

NOTE: Do not leave the shoreline plugged in during storage. Follow regular battery inspection and maintenance. Further precautions are:

- *Check the state of charge periodically to avoid discharge or sulfating. To ensure that the battery will always accept and hold a charge, follow these simple maintenance practices:*
- *Make sure the batteries always remain securely clamped in the battery tray.*
- *Make sure battery cable clamps are tight on the terminal posts and are free of corrosion.*
- *Neutralize corrosion buildup or acid film on top of battery by washing with a baking soda/ water solution. Rinse with clear water.*

NOTE: Make sure vent caps are on securely to prevent baking soda solution from entering the battery and contaminating the electrolyte fluid.

⚠ WARNING

Before removing any battery cables or battery, make sure all 12-volt equipment in the motorhome is off and the power cord has been disconnected. Be sure to replace the battery terminal boot, if supplied, back onto the positive terminal after servicing. Care must be taken to avoid pinching the cable between any metal parts. Should the cable be damaged, a short circuit could result in personal injury or damage to equipment. Replace any damaged cables at once. Always remove jewelry and wear protective clothing and eye covering when checking or handling batteries.

- *Clean and tighten battery terminals and have the specific gravity checked at least once a year.*
- *Check the battery fluid level every month, or more often in hot weather. Fill to approximately 3/8 inch above the plates. DO NOT OVERFILL. If fluid is added during freezing weather, the motorhome should be driven several miles to mix water and electrolyte to prevent freezing.*
- *Fluid level check may be omitted if equipped with maintenance-free batteries.*

⚠ WARNING

To prevent wiring damage, it is essential when replacing the cables on the battery, or when using a "booster" battery, that the positive post and the positive cable be attached and the negative post and negative cable be attached. The posts are marked (+) plus and (-) minus.
If a "boost charger" is used while battery is in the motorhome, disconnect both battery cables before connecting the charger to avoid damage to engine electronic components.
Never attempt to charge or boost a frozen battery. An explosion can occur resulting in personal injury.

Chassis Battery
If your coach is going to be unoccupied for two weeks or more, Renegade RV recommends disconnecting the chassis battery in your coach to avoid battery discharge. Unplug the Chassis Battery Connector (located to the right of the accelerator pedal) to disconnect battery.

6-7 CIRCUIT BREAKERS AND FUSES - HOUSE 12-VOLT DC

All 12-volt circuits and equipment in the coach area of the motorhome are protected by either a fuse panel or breaker panel. When a circuit is overloaded or a short develops in any part of the system, a fuse or breaker will shut down that circuit. If this happens, tum off all affected lights or appliances and reset the breaker or replace the fuse with a new one of equal amperage rating.

House 12-Volt Fuses
A label on the panel states the amperage rating and circuit protected for each fuse. The fuse panel is located above the control panel for the house.

House 12-Volt Fuses (Located above the switch & monitor panel next to the coach entrance door in bulkhead cabinet)

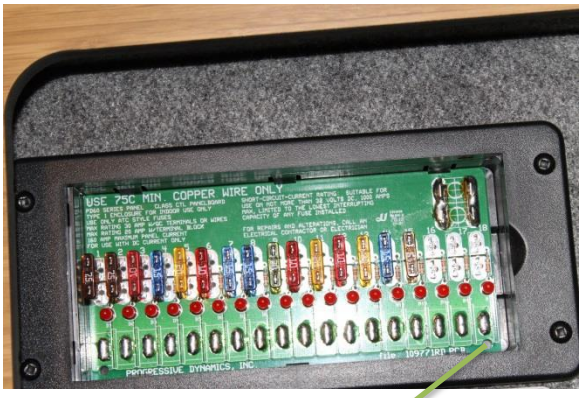
The fuse panel accepts only blade type plug-in fuses. Always replace fuses with those of the same amperage rating.

Functional Non-Functional Battery Charge Meter
See related item under "Systems Monitor Panel" in Section 4 - Appliances.
Battery Boost Switch
See Section 3 - Driving Your Motorhome for information on the Battery Boost switch.
Automotive Chassis 12-Volt Circuit Breakers
A label on the Automotive Chassis 12-Volt Circuit Breaker panel states the amperage rating and circuit protected for each breaker.

NOTE: Breakers are labeled on panel cover refer to owner's manual.

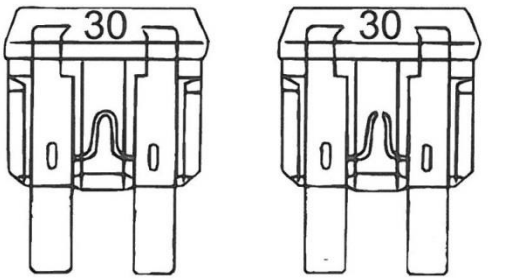
Arrangement may vary according to appliance and equipment options. Auto-

motive Chassis 12-Volt Circuit Breakers (Located on outboard side of Driver seat) * Shown with cover removed



House 12 volt fuses

Blade type Fuses for 12volt electrical systems



Chassis fuse panel is located behind a cover on the driver side seat base it is covered by the base skirt. For fuse guide refer to the chassis owner's manual.

SECTION 7 – PLUMBING FRESH WATER SYSTEM

The Fresh Water System provides water to the galley sink, shower, bathroom lavatory, toilet, and water heater. Water may be supplied by either of two sources:

1) A fresh water tank and water pump located within the motorhome, or
2) Any external fresh water source to which the motorhome may be connected, known as "city water".

There are two ways to fill the fresh water tank on your coach - City Fill or Gravity Fill.

7-1 Water Pressure Regulators

Because city water pressure varies from location to location, we recommend obtaining an in-line water pressure regulator to prevent damage to any components, connections, and seals in your fresh water system. These devices simply connect in-line between the supply hose and the city water input on the coach. We recommend regulators that control water pressure to 50 psi. max.

Water pressure regulators are commonly available at most RV dealerships and many large retail discount or home supply centers.

<u>Method 1</u> - Filling the Fresh Water Tank Through City Fill Connection

Always fill the fresh water tank at an approved potable water filling facility or a known purified drinking water source.

The tank is filled through the City Water Connection (Fresh Water Inlet) located inside the water service center.
The Fresh Water valve (located in the water service center) routes the water from the city water hose to the fresh water tank for filling.

1. Attach hose to the Fresh Water Inlet. Fresh (City) Water Connection "Fresh Water Inlet" (Located in the water service center)
2. Open the Gravity Fill door (located behind a small, lockable door on the driver or passenger sidewall - depending on model) to aid in tank venting and as an overflow when the tank is full.
3. Tum the Fresh Water valve to the Tank Fill position. “Fresh Water Valve” (*Located in water service center*)
4. Tum city water supply ON.
5. Use the level display on the monitor panel to oversee filling of the tank, or when the tank is full, water will flow from tank vent tube beneath coach and out of the Gravity Fill door.

NOTICE
Do not leave fresh water connection unattended when filling tank. Failure to comply may result in tank expansion and property damage.

6. Tum OFF city water supply and disconnect
hose from the Fresh Water Inlet.
7. Tum the Fresh Water valve to Normal position to use the water pump. The Tank Fill position is only for pressure filling the water tank from the city water hose connection.

Fresh Water Valve - (Located in water service center)
Using City Water - When connected to an outside source of water, the water bypasses the water pump and storage tank and supplies pressure directly to individual faucets and toilet. A check valve built into the pump prevents water from entering the pump and filling the storage tank. Connect hose to Fresh Water Inlet as described in previous steps.
• With the Fresh Water valve in the Normal position, tum the Water Pump switches OFF.

NOTE: *Always keep the Fresh Water valve in Normal position unless you are filling the tank. If this valve is left in the Tank Fill position while using the city water, water will keep flowing into the tank and out the tank vent tube onto the ground and the water pump will run without delivering water to the faucets.*

Disconnecting from City Water - Tum the city water supply OFF. Open a faucet on the coach (such as the exterior wash station, if equipped) to relieve line pressure. Disconnect hose from the coach and replace cap on the Fresh Water Inlet.

NOTE: Ensure the Fresh Water valve is in NORMAL position to use the water pump. If the valve is in Tank Fill position, the pump will run continuously without delivering water.

(*If equipped*)
Method 2 - Filling the Fresh Water Tank Through Gravity Fill (If equipped)
Always fill the fresh water tank at an approved potable water filling facility or a known purified drinking water source.
The gravity tank fill tube is located behind a small, lockable door on the driver or passenger sidewall toward the back of the coach, depending on model.
• Insert hose into fill opening and tum water supply on. Tank is full when water flows from the tank vent tube beneath coach and out of the Gravity Fill door.
• Using Tank Water (Gravity Fill) Tum Water Pump switch ON. While the switch is on, the water pump will automatically supply tank water as needed.

7-2 WATER PUMP

When your coach is not connected to a city water supply, water is supplied from the fresh water tank by a water system demand pump. A demand pump is designed to run only when you are using water. When you

open a faucet, the waterline pressure drops and the pump begins to run, and it will continue to run as long as the faucet is open. When you close the faucet, the line pressure backs up to the pump, and it shuts itself off.

The pump is self-priming and will run briefly to build up line pressure when the Water Pump switch is first turned on. See "Initial Waterline Priming" for instructions on using the water system for the first time.

For further information refer to the Water Pump manufacturer's operation, care, and maintenance information provided in your Info Case.

Water Pump Strainer
The pump is equipped with a cleanable strainer to capture any possible tank-borne particles that could damage pump components. NOTE: We recommend that you check and clean the strainer after each tankful of water during the first few uses of the Water Pump system. Thereafter, remember to check it at least yearly, and be sure to empty water from it during winterization procedures. clean strainer Water Pump Strainer

To Clean Pump Strainer
Ensure all Water Pump switches are OFF. Twist the inlet cap (bowl) "counterclockwise" to unscrew from the strainer assembly.

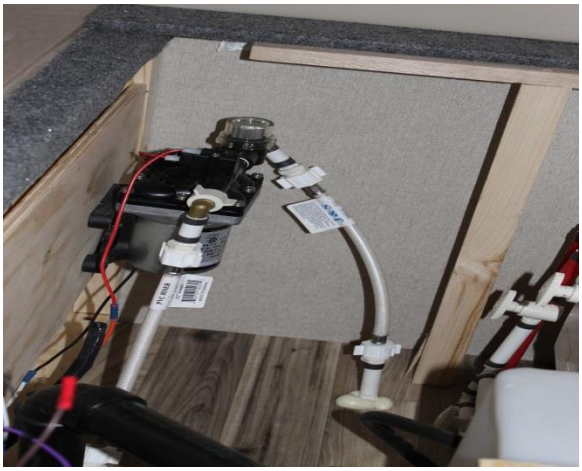
Remove the bowl and pull the strainer screen out of the bowl to tap out any particles and rinse clean. Insert the strainer screen back into the bowl, then screw the bowl back onto the strainer assembly.

NOTE: You must also empty the strainer when winterizing your coach to avoid water freezing and cracking the filter bowl.

Water Pump Switch
The Water Pump switch is located near the monitor panel (some models may have an additional switch in the water service center or within the bathroom area for your convenience). While the switch is "ON", the pump will automatically supply water as it is needed. We recommend that you tum the Water Pump switch off whenever you will be away from the vehicle or not using the water system. In time, a slow leak in a faucet could drain the water tank, fill the holding tank, and discharge the house batteries.

Initial Waterline Priming
1. Ensure that all water drain valves are closed, including water heater valve.
2. Tum Water Pump switch to "OFF" position.
3. Fill water tank
4. Open all faucets, hot and cold.
5. Tum ON the Water Pump switch.
6. Close each faucet as it begins to deliver a steady stream of water (close cold water first.) Leave hot water faucets on until they also deliver a steady stream of water. This will ensure that the water heater is filled with water.
7. Check to ensure the Water Pump stops soon after all faucets have been closed.
8. The Water Pump is now ready for automatic operation. The pump will start when a faucet is opened and stop when the faucet is closed.

Water Pump: (Located under the bed platform)



7-3 COLD WATER FILTER

-If equipped
To obtain filtered cold water for drinking or cooking, simply open the galley sink cold water faucet.

NOTE: Only the cold water faucet is filtered. The cold waterline flows through an activated carbon filter that removes chlorine and odors for taste-free drinking water.

Cold Water Filter Assembly
(If equipped located below galley sink)

NOTE: Hot waterline is not filtered
Replacing the Cold Water Filter Cartridge
You should replace the filter cartridge every season and when water flow from the faucet is too slow for convenience. The cartridge must be replaced at least every 12 months.

1) Place a container beneath the filter to catch any water remaining in the waterlines during filter removal.
2) Twist the filter cartridge "counter-clockwise" about one-quarter tum, then pull it down and out of the filter socket.
3) Insert a new water filter cartridge up into the filter socket as far as possible and twist it "clockwise" one-quarter tum until it stops.
4) Insert new filter up into filter socket - press and twist 11/4 turn "clockwise"

Before using the water for drinking, run a few gallons of water through the filter and discard water to avoid consuming carbon dust or particles that may have been present in the new filter cartridge.

Diverter Plug
Install the diverter plug into the filter socket for winterization or if water must be used while the filter is removed from the socket. The diverter plug is installed in the same manner as the water filter.

Diverter Plug (installed in filter socket)
• Insert and twist 1 1/4 turn "clockwise"

See "Winterization Procedure" at the end of this section for further information. When removing the coach from storage, always disinfect and flush the water system thoroughly before installing a new filter. See "Disinfecting Your Fresh Water System" elsewhere in this section for more information.

NOTE: After the system has been thoroughly flushed, remove the diverter plug and store for future use.

7-4 PLUMBING DISINFECTING YOUR FRESH WATER SYSTEM

(As required by NFPA@1192 Standard on Recreational Vehicles)
To ensure complete disinfection of the potable water system, it is recommended that the following procedure be followed on a new system, one that has not been used for a period of time, or one that could have become contaminated.
This procedure is also recommended before long periods of storage, such as over winter.

Disinfecting with Gravity Fill

1) Prepare a chlorine solution using 1 gallon of water and 1/4 cup of household chlorine bleach (sodium hypochlorite solution). With tank empty, pour chlorine solution into the tank. Use 1 gallon solution for each 15 gallons of tank capacity. This procedure will result in a residual chlorine concentration of 50 ppm in the water system. If a 100 ppm concentration is desired as discussed in Step 4, use 112 cup of household bleach with 1 gallon of water to prepare the chlorine solution. One gallon of this solution should be used for each 15 gallons of tank capacity.
2) Complete filling of tank with fresh water.
3) Open each faucet in the coach and run the water until a distinct odor of chlorine can be detected in the water discharged. Do not forget the hot water faucets.

4) Let the system stand at least 4 hours when disinfecting with 50 ppm residual chlorine. (If a shorter time period is desired, then a 100 ppm chlorine concentration should be allowed to stand in the system for at least 1 hour).
5) Drain the water tank and refill with fresh water.
6) Open each faucet again and run fresh water to flush chlorinated water from the lines. Run the water until there is no odor of chlorine detected in the water discharged. Do not forget the hot water faucets. (You may need to leave a hot water faucet open for some time to flush the water heater with clean water. You may also want to turn the water heater off until this is done to avoid wasting energy trying to heat "unused" water).
7) Water system is now disinfected. Continuous Tank Disinfection (Super chlorination) Some RV'ers like to ensure continuous sanitation of their fresh water tank by "super chlorination"- maintaining an effective low level of chlorine in the tank at all times.
   • Add 1 teaspoon of chlorine bleach (sodium hypochlorite) to your tank for each 10 gallons of tank capacity. When you fill the tank, this will result in a 6.7 ppm level of chlorine, which should kill harmful bacteria and slime forming organisms. Chlorine may be removed from drinking water by the cold water filter at the galley faucet or by the separate filtered water faucet (if equipped). Super chlorination does not affect city water usage, only the fresh water tank.

7-5 SHOWER HOSE VACUUM BREAKER

After using the shower, you may notice water dripping from the shower faucet assembly. The dripping results when vacuum in the shower hose (after closing the shower faucet) slowly releases and allows water remaining in the hose to drain down. This is a normal function of the shower valve assembly and is not a leak or defect. If items are placed into the shower tub before shower valve vacuum release is complete, they may become wet.
‘

7-6 EXTERIOR SHOWERIWASH STATION (If equipped)

The Exterior Shower Wash Station feature allows you to do things such as rinse off sand or salt after a swim, rinse off muddy boots, or bathe your pet outside the coach. Some models may have a Water Pump switch located near the shower faucet for convenience. Exterior Shower Wash Station
-Typical Villagio

7-7 TOILET

The toilet in your motorhome is very similar to the household type, except that it is designed to use only a small amount of water per flush. It uses a high velocity jet of water, producing a swirl effect, to efficiently cleanse the bowl.

Important "Don'ts"

- Don't use facial tissue or regular toilet tissue in the RV toilet. These will not disintegrate sufficiently and will often cling to the sides of the holding tanks. Toilet tissue made specifically for use in RV toilets and holding tanks is available at most RV supply centers.
- Don't dispose of sanitary napkins or other non-dissolving items in the toilet.
- Don't put automotive antifreeze or caustic chemicals, such as laundry bleach or heavy detergents into the toilet or holding tank. These products may damage plastic or rubber parts in the system. See winterizing instructions at the end of this section to prepare the toilet for storage in freezing conditions.

For further information see the toilet manufacturer's operation information in your Info Case for complete operating, care, and maintenance information.

7-7 DRAINAGE SYSTEM (P-TRAPS)

Ensure there is an adequate amount of water in the drainage system p-traps to avoid sewer odor from entering your coach. If you should experience a sewer odor, pour approximately 1 cup of water down each sink and shower drain in the coach.

7-7 WASTE WATER SYSTEM

(Holding Tanks)

The drainage system is self-contained and uses two separate holding tanks to contain the waste water until it can be dumped at an appropriate waste water disposal site. This means you can use the toilet, sinks and shower even in areas where utility hookups are not available.

The black water holding tank contains the sewage from the toilet and may include bathroom lavatory on some models. The gray water holding tank contains the waste water from the galley sink and shower, and may include bathroom lavatory.

See "Specifications" in Section 1- Introduction for tank capacities for your model.

Dumping Holding Tanks

1. Remove drain hose from water service center.
2. Remove dust cap from drain and connect sewer hose. Be sure it is firmly attached.
Sewage Drain Outlet (Located on the underside of water service center)
-Typical Villagio
3. Place the outlet end of sewer hose into disposal opening.
4. Open the Black Waste Tank Drain valve with a quick pull and make sure there are no sags in the hose. Move the hose gently about to dislodge any waste and ensure complete drainage. Close the Black Waste Tank Drain valve as soon as tank is empty.

2nd – Pull Gray Waste Tank Drain valve to drain Gray Water (sink/shower) tank -then close.

1st – Pull Black Waste Tank Drain valve to drain Black Water (sewage) tank – then close.

Holding Tank Dump Valves
(Located in water service center)

NOTE: DO NOT OPEN BOTH VALVES AT ONCE.

Do not open the Gray Waste Tank Drain valve until the black tank is drained and dump valve closed to avoid sewage back-up into gray tank. Gray water also rinses any black water solids from the drain hose. Black and Gray tank valve positions may be reversed depending on floor plan and tank location.

5. Open the Gray Waste Tank Drain valve with a quick pull and make sure there are no sags in the hose to ensure complete drainage. Close Gray Waste Tank Drain valve as soon as tank is empty.
6. Add an odor control chemical to the sewage holding tank through the toilet. These chemicals are available at most RV stores.
7. Rinse sewage drain hose thoroughly with water and stow.

NOTE: We recommend that you dump all holding tanks before traveling to avoid carrying unnecessary weight.

Using On-Site Sewer Hook-Ups

The sewage drain hose may remain attached to the sewage drain outlet while the motorhome is parked and connected to an on-site sewage hookup. When using a sewer hook-up, keep the dump valves closed until a tank becomes full or when preparing to leave the site. This keeps the solids in suspension, allowing them to be carried out with the liquids when the dump valve is opened. If the valve is left open, the liquids will drain off, leaving solids in the tank. Should this accidentally happen, disconnect the hose, fill the tank about half full with water, and drive a few miles to dislodge the solids. A few starts and stops will aid in the process. Then reconnect the hose and drain in the normal manner.

NOTE: Always keep sewage drain outlet capped while sewage connection is not in use.

Holding Tank Level Indicators
See "Systems Monitor Panel" in Section 4-Appliances for further information on the monitor panel and checking tank levels. See "Specifications" in Section J Introduction for tank capacities for your model.

7-8 HOLDING TANK HEATER

Your coach is equipped with black water and gray water holding tank heaters to allow use of waste utilities in freezing temperatures. The holding tank heater power switch is located near the monitor panel. The illuminated switch will glow when the power is on.

Holding Tank Heater Switch
(Located on monitor panel)

DO NOT operate the holding tank heater unless you are providing a supplemental 12-volt power source to recharge the house batteries. This means either the shoreline cord must be plugged into a l20-volt source, the auxiliary generator must be operating, or the chassis engine must be running (such as when driving down the road). This will prevent excessive discharge of the house battery.

NOTE: The holding tank heater pads are electrical resistant-type heating elements. This type of heating element typically uses a large amount of current while operating. If the tank heaters are used without a recharging source, they will drain the house batteries in a relatively short period. Typically, the batteries would not support overnight heating without a supplemental charging source.

7-9 WATERLINE & TANK DRAIN VALVES

The waterline and tank drain valves are used to drain water from the water tank and the water supply lines when preparing the motor home for storage or when sanitizing the water system.

See the "Water System Drain Valve Locations" chart at the end of this booklet for locations on your model.

7-10 WATER HEATER BYPASS AND ANTIFREEZE SIPH ON VALVES

Your coach is equipped with a Water Heater Bypass valve and an Antifreeze Siphon (Winterization) valve for winterizing waterlines using RV antifreeze.

Refer to the "Water System Drain Valve Locations" chart at the end of this section for locations on your model.
Normal Flow By-Pass Mode

⚠ CAUTION

Leave bypass valve handle in NORMAL FLOW position if draining water and blowing out waterlines. Place in BYPASS position ONLY when using antifreeze solution in waterlines.

7-10 WINTERIZING PROCEDURES

You can winterize the water and plumbing system of your coach using one of the following two methods:

1) Blow out waterlines using compressed air
2) Fill waterlines with RV water system antifreeze.

Method 1 - Blow Out Procedure
(Drain and purge waterlines using compressed air)
1. Level the Motorhome. If the coach is not level, there may be "low points" in waterlines that can trap water in the lines and prevent it from draining properly.

2. Drain Fresh Water Tank and Waterlines Open all waterline drain valves and drain fresh water tank. (See "**Water System Drain** Valve Locations" chart at end of this section for locations of drain valves on your model).
3. Drain Exterior Shower Wash Station. Open exterior shower knobs and lay shower head on ground to drain any water left in the shower line. Also, place the tip of your finger into the city water inlet and gently press the backflow valve "button" in the center of the inlet to drain any water trapped in the inlet line. Using exterior shower to drain waterline (Typical Villagio - appearance on your coach may differ)
4. Remove the Cold Water Filter Cartridge (if equipped). Remove the filter cartridge from the filter assembly below the galley sink. (If your coach is not equipped with a cold water filter, continue to next numbered step.)
• Place a container beneath the filter to catch any water that may drain from the waterline during filter removal.
• Twist the filter cartridge counter-clockwise (to the left) about one-quarter tum, then pull it down and out of the filter socket. Discard used filter.
• Install the diverter plug into the filter socket. Insert plug up into the filter socket as far as possible and twist clockwise (to the right) one-quarter tum until it stops.
5. Open Faucets. Tum on the water pump and open all sink faucets and shower head knobs. Leave open after water stops flowing.
6. Drain Toilet. Press the toilet flush pedal and hold until water stops flowing in the toilet. Then tum water pump switch off.
7. Drain Water Heater. Tum off the water heater power switch before draining the water heater tank to avoid damage to the heating element. Drain the water heater by removing the plug from the base of the water heater tank, accessible from the outside of the coach (requires socket and ratchet).

Water Heater Drain Plug (Remove with socket)
Also, open the Pressure-Temperature Relief Valve at the top right portion of the tank to prevent air locking in the tank while draining.
Pressure-Temperature Relief Valve
(Lift handle only when water heater is cold)
8. Connect Air Pressure. After water has stopped draining at all faucets and drain valves, leave faucets open and connect a "blow-out" plug to the city water connection on the coach. Then use a compressed air hose regulated to 30 psi or less to force air through the system. A "blow-out" plug can be purchased at any Renegade RV dealer.
Fresh Water Inlet Blow-out Plug Air Hose

*NOTICE - Limit air pressure to **30 psi** to avoid damage to equipment.*

*NOTE - **DO NOT** Deliver a heavy blast air to the water system this will cause the water lines to burst and damage the water pump.*

9. Let air flow for five minutes until water is completely drained out of faucets and drain valves. Then close faucets one at a time.
10. Drain Toilet. Operate and hold toilet flush lever until water is completely drained from toilet.
11. Turn air pressure off. Disconnect water purge adapters. Recap the city water inlet to avoid contamination by dirt or insects. After Disconnecting Air Pressure close all waterline drains, tank drain valves, and all faucets to avoid contamination by dirt, insects, or rodents.
13. Reinstall the Water Heater drain plug and close the P-T Relief Valve.
14. Pour about one cup of RV antifreeze down each drain for the galley sink, lavatory sink, and shower/tub. This fills the drain trap pipes to prevent holding tank odors from entering the coach during storage.
NOTE: It is not necessary to add antifreeze to the toilet since the flush valve will be closed.
Do not add automotive antifreeze or

caustic chemicals such as bleach or laundry detergents into the toilet bowl or holding tanks. Although these products may have a deodorizing effect, they may damage plastic and rubber parts in the system.

15. Empty the water pump strainer filter bowl to avoid water freezing and cracking the filter bowl. See "Water Pump" previously in this section.
16. Completely drain the sewage and waste water holding tanks at an approved waste disposal site. Drain the sewage tank first so the following waste water can rinse any waste solids from the dump outlet and sewer hose.
17. Close dump valves and refit the dust cap onto the drain outlet. This will inhibit rust formation on valve shafts and prevent entry and contamination by airborne debris, insects, and rodents. Your drainage and fresh water systems are now winterized. *See instructions for removal from storage in Section 11 - Maintenance and Storage.*

Method 2 - Antifreeze Fill Procedure (Fill plumbing lines with RV water system antifreeze)

NOTE: As an alternative to totally draining the waterlines, you may winterize tanks and lines by filling them with non-toxic RV water system antifreeze through the plumbing system.

This product is available from your dealer and from most RV supply stores and national retail outlets. Follow directions on the container to determine the correct amount to use for your coach. Your coach is equipped with a manually operated water-line winterization system for your convenience in winterizing fresh waterlines. The system features a Winterization (diverter) valve with an antifreeze siphon tube to draw nontoxic RV water system antifreeze into the waterlines. There is also a Water Heater Bypass valve to avoid filling the water heater with antifreeze. Leave Water Heater Bypass valve in NORMAL FLOW position if draining water and blowing out waterlines. Place in BYPASS position ONLY when using antifreeze solution in waterlines.

WARNING NEVER use automotive antifreeze/*coolant in your RV water system. Automotive coolant/antifreeze contains ethylene glycol which, if ingested, can cause blindness and can be fatal.*

Remove Water Filter

1. Remove and discard the filter cartridge from the cold water filter assembly below the galley sink. (If your coach is not equipped with filtered cold water, continue to next numbered step).
   - Place a container beneath the filter to catch any water remaining in the waterlines during filter removal.
   - Twist the filter cartridge “counter-clockwise" about one-quarter tum, then pull it down and out of the filter socket.
   - Install the diverter plug into the filter socket. Insert plug up into the filter socket as far as possible and twist "clockwise" one-quarter tum until it stops.
2. Tum Water Heater Bypass valve to BYPASS position. (See "Water System Drain Valve Locations" chart at the end of this section for location of bypass valve on your model). Water Heater Bypass Valve (See Water System Drain Valve chart at the end of this section for location on your model.)
3. Remove and save the protective cap from the end of the antifreeze siphon tube (save cap to cover tube after use.) Insert the end of the siphon tube into a pail or other container with 2 to 3 gallons of non-toxic RV antifreeze solution.
4. Tum the Winterization valve handle so that it points toward the siphon tube. (See "Water System Drain Valve Locations" chart at the end of this section for location on your model).

7-10 Antifreeze Siphon Tube and Winterization Valve

(See Water System Drain Valve chart at the end of this section for location on your coach)
-Typical Villagio

NOTE: Ensure that all drain valves are CLOSED before pumping RV antifreeze into the water system. (Refer to the Water System Drain Valve Locations" chart at the end of this section for valve locations on your model.)

Fill Lines

1. Tum the Water Pump switch ON.
2. Open each hot and cold water faucet handle/ knob in the coach - one at a time each in tum until antifreeze solution just begins to flow from the faucet, then close. Do not forget exterior shower/wash station knobs (if equipped).
3. Press the toilet flush pedal and hold until antifreeze begins flowing into the toilet. Leave small amount of antifreeze that remains in the bowl. When Done Adding RV Antifreeze
4. Tum Water Pump switch OFF.
5. Tum the Winterization valve so it points toward the waterline connected to the water pump. This will stop the flow from the antifreeze siphon tube and revert the tank line flow to the water pump.
6. Replace the protective cap onto the end of the antifreeze siphon tube to keep out insects or debris when not in use.

Drain Water Heater

1. Tum off the Water Heater power switch before draining the water heater tank to avoid damage to the heating element.
2. Drain the water heater by removing the plug from the base of the water heater tank, accessible from the outside of the coach (requires socket and ratchet). Water Heater Drain Plug (Remove with socket)
3. Open the Pressure-Temperature Relief valve at the top right portion of the tank to prevent air locking in the tank while draining. Pressure-Temperature Relief Valve (Lift handle only when water heater is cold).
4. Reinstall the water heater drain plug and close the P-T Relief valve when drained. Fill Drainage System P-Traps.
5. Pour about one cup of RV antifreeze down each drain for the galley sink, lavatory sink, and shower/tub. This fills the drain trap pipes to prevent holding tank odors from entering the coach during storage.

Dump and Clean Holding Tanks

1. Completely drain the sewage and waste water holding tanks at an approved waste disposal site. Drain the sewage tank first so the following waste water can rinse any waste solids from the dump outlet and sewer hose.
2. Close dump valves and refit the dust cap onto the drain outlet. This will inhibit rust formation on valve shafts and prevent entry and contamination by airborne debris, insects, and rodents. Your drainage and fresh water systems are now winterized. See instructions for removal from storage - *Maintenance and Storage.*

7-11 WATER SYSTEM DRAIN VALVE LOCATIONS

Model System Drain Valve Locations

24J Waterlines: Open exterior shower faucet and lay shower head on ground.
Water Tank Large - yellow-handled valve in rear passenger side storage compartment.
Water Heater Drain plug on outside of coach behind service door.
Use socket to remove drain plug.
Water Heater In rear passenger side storage compartment.
Bypass Valve Winterization In rear passenger side storage compartment.
(Antifreeze) Valve.

24M Waterlines: Open exterior shower faucet and lay shower head on ground.

Water Tank Large yellow-handled valve in front dinette seat.
Water Heater Drain plug on outside of coach, behind service door.
Use socket to remove drain plug.
Water Heater Beneath removable access panel in floor of rear passenger side
Bypass Valve storage compartment.
Winterization Beneath removable access panel in floor of rear passenger side
(Antifreeze) Valve storage compartment.

SECTION 8 - ENTERTAINMENT

TV - 12V LED – (If equipped)

The LED flat panel TV is powered by 12-volt DC current. The 12-volt current is supplied from the house batteries, or from the power converter when connected to shoreline power or running the generator.

NOTE: The 12-Volt TV Master Power switch must be ON to operate the TV. 12-Volt TV Master Power Switch (Located in overhead cabinet or on a wall near the TV)
-Typical installation shown

NOTE: When the TV is not in use, the 12-Volt TV Master Power switch should be turned OFF to eliminate drain on the 12-volt house battery.

For further information see the television manufacturer's user guide provided in your Info Case.

8-1 TV - GALLEY (SWING-OUT)

-(If equipped)
Your coach may be equipped with a galley TV swing-out mechanism, which allows you to angle the TV to best suit your viewing needs.

To Swivel TV
Grasp the inboard side of TV and disengage from the wall mounting bracket. Extend the TV and angle to desired position.

Push TV back towards wall and press firmly on the inboard edge of TV, ensuring the TV engages with the wall mounting bracket.

For further information see the television manufacturer's user guide provided in your Info Case for complete operating instructions.

8-2 AUDIO-VIDEO SYSTEM BASIC OPERATION

NOTE: For your convenience, we have also included a handy, tear-out version of this "AIV System Basic Operation" guide in Section 8 of your Operator s Manual Supplement. See your Info Case for specific operating guides for audio and video components.

8-2 DVD PLAYER WITH DELUXE SOUND – (If equipped)

The DVD Player is a selectable function of the multi-featured audio system. The player unit contains DVD/CD/MP3/AM-FM Stereo Radio. It also accepts portable audio player inputs and it also functions as an alarm clock. The player is connected directly to the TV and can output sound to either the stereo speakers in the TV or to the Deluxe Sound speakers in the lounge area of the coach.

Refer to the manufacturer's information provided in your Info Case for complete feature descriptions and operating instructions.

8-2 Interior Speaker System - Interior Speaker Switch: "SPEAKER A"

To connect or disconnect the interior speaker system, press SPEAKER A.
Set TV Video Input.

Tum TV and Radio DVD player ON.
Press the MODE button on the TV or the SOURCE button on the remote to select "INPUT 2".

The TV screen will display the DVD player logo when the correct input is selected.

Play DVD
Insert a DVD "face up" into slot on lower face of the player. The DVD will begin to load automatically. The TV screen will typically display "Reading" or "Loading". The DVD may load directly to the main title/menu screen or it may begin to play previews. You may be able to skip previews if desired by pressing the "Next" button on the DVD remote until you see the main menu screen. When the main menu screen appears, press the "Enter" button on the remote or "Play/ Pause" button on DVD player to begin playing the main feature. Use the arrow buttons on the DVD remote to select another feature to play.
Volume is adjusted with the DVD remote.

TV Sound through Deluxe Sound Speakers:
When watching TV programs alone, the TV normally plays sound through its own built-in stereo speakers. If you wish to connect TV stereo sound output to the Deluxe Sound speakers for a richer sound quality, follow these steps:
1. Tum the TV ON.
2. Make sure the Interior Speaker System is ON.
3. Press the AUX input selection button (located just below the display on the face of the Radio DVD Player). This will route the TV stereo sound output through the Radio DVD Player and out to the Deluxe Sound speakers.
4. Select TV channels and adjust volume using the TV remote.

For further information see the manufacturer's quick reference guide provided in your Info Case.

8-3 EXTERIOR SPEAKERS

-If Equipped
Your coach may be equipped with two exterior speakers for outdoor listening pleasure. These speakers are located below the patio awning and is featured with a remote extender, which provides outdoor usage of the CD/MP31 AM-FM stereo radio remote control for stereo system functions.

Exterior Speaker (Located below patio awning) - Typical Villagio
To connect or disconnect the exterior speaker system with the interior stereo system, press SPEAKER C (located on your interior DVD/CDI MP3/AM-FM stereo radio)

Exterior Speaker Switch "Speaker C" (Located on the interior OVO/CO/MP31 AM-FM Stereo Radio)

For further information see the stereo radio information provided in your Info Case.

8-4 TV ANTENNA - DIGITAL

(Jack® Digital HDT V Over-the-Air Antenna)
Your coach is featured with a digital antenna, which provides crystal clear digital HD reception of over-the-air channels in addition to superior broad reception range. The digital antenna is equipped with a built-in amplifier for maximum VHF and UHF programming.

WARNING *Never allow the antenna to touch electrical power lines or any other electrical wires.*

Operating the Digital Antenna:
1. Tum the Digital Antenna Power Switch ON. Digital Antenna Power Switch (located in an overhead cabinet or mounted on a wall near the TV).
2. Tum ON the Signal Meter Power switch (located on the side of the Signal Meter). Digital Antenna Signal Meter (located on ceiling).
3. Rotate the Attenuator Dial fully CLOCK-WISE.

4. Press Release Button on the Rotational Knob and rotate antenna (until maximum number of LED lights illuminate on the Signal Meter).
NOTE: LED lights will illuminate from left to right. AII LED lights may not illuminate, depending on signal strength.
5. Rotate Attenuator Dial COUNTER-CLOCKWISE until the last illuminated LED light flickers.
6. Rotate antenna to illuminate the last flickering LED light.
7. Repeat Steps 5 and 6 to pinpoint signal reception.

NOTE: *Refer to television manufacturer instructions to scan for available channels.*

For further information see the antenna manufacturer's user guide provided in your Info Case.

8-5 TV SIGNAL AMPLIFIER

The TV Signal Amplifier is built into the antenna and can be turned on or off with a power switch located on a switch plate near the entertainment center cabinet. An indicator light will illuminate when the switch is on and the signal amplifier is active.

TV Signal Amplifier Power Switch (located next to the TV)

8-6 CABLE TV AND SATELLITE CONNECTIONS

The cable television and satellite dish input connections are located in the Water box compartment.

8-6 INPUT CONNECTIONS PORTABLE SATELLITE DISH CABLE

Cable TV and Satellite Connections (located in Water Box compartment)

Your coach is pre-wired for installation of a digital satellite TV system. Coaxial cable and high definition component cable connections are available to hook up your satellite receiver and are located near the entertainment center cabinet. A second connection may be included inside a cabinet in the bedroom for the rear TV (if equipped). See your authorized Renegade RV dealer for proper installation and sealing of roof mounted components.

Interior Satellite Dish and HDMI Connections (*located near entertainment center cabinet if equipped*)

SECTION 9 - FURNITURE AND SOFT GOODS

9-1 SLEEPING FACILITIES & WARNING

Sleeping facilities are not intended for use while vehicle is in motion. For safety, passengers must use safety belted seating positions while vehicle is in motion.

9-1 FRONT BUNK(if equipped)

The Front Bunk in your coach converts easily into additional sleeping space when needed by flipping the top cushion extension down.

Bunk Ladder

The top of the bunk ladder must be hooked onto the brackets on the rear edge of the bunk mattress for use.

Bunk Ladder Storage Locations
• Model 24J - Beneath rear bed (right rear exterior storage compartment).
• Model 24M - Beneath sofa.

CAUTION To avoid injury, never use the bunk ladder in any other manner or for any other purpose than described in the following instructions.

Before Using Bunk Ladder
Inspect the ladder to make sure it is not damaged. Never use a damaged ladder. Keep the rungs of the ladder clean and dry while in use. Do not step onto the rungs if the rungs are wet, or if your shoes are wet or carry debris that could result in a loss of footing. Never ignore warning labels or weight limits defined on your ladder. The following warning label is located on or near the ladder:

WARNING:
Do not exceed 225 Ibs.. maximum weight capacity. Misuse of ladder could result in death or serious injury. See Operators Manual before using ladder.

Maximum Capacity: 225 Ibs. Do not over-load. Ladder is intended for one person. Make sure you are physically capable to safely use the ladder. Strength, flexibility and stability are required.

Grasp the side rails firmly and always use both hands as you climb the ladder. Keep your body centered between the side rails. Do not overreach. To protect children, do not leave the ladder set up and unattended. Always store the ladder in a safe and dry location when not in use. Stow properly while in transit. Do not store items on the ladder. You could damage the ladder.

To Use the Bunk Ladder
1. Lift ladder horizontally.
2. Slide C-shaped retainer ends at the top of ladder onto brackets at rear edge of mattress.
3. Lower ladder to floor.

***NOTE**: Ensure top of ladder is properly engaged onto retainer brackets and ladder is resting firmly on floor before using.*

9-2 SOFA/BED CONVERSION

-(If equipped)
Sofa to Bed: Pull OUT on security latch (located on front of sofa) to release sofa seat.

Security Latch (located on front of sofa)
- Pull OUT to release
Lift the front edge of the sofa seat upward and outward from the wall while gently pushing downward on the backrest until the cushions lie flat. The bed is now ready for use.

Bed to Sofa
Push the front edge of the sofa seat toward the wall while lifting upward on the backrest until the sofa is fully seated against the wall and security latch "clicks" into locked position.

9-3 SOFA/BED CONVERSION

-(If equipped)
Sofa to Bed Press DOWN on security latch handle (accessible through front sofa opening) to release sofa seat.

Security Latch Handle accessible through front sofa opening Security Latch Handle
- Press DOWN to release. Lift the front edge of the sofa seat upward and pull outward from the wall while gently pushing down-ward on the backrest until the cushions lie flat. The bed is now ready for use.

Bed to Sofa
Push the front edge of the sofa seat toward the wall while lifting upward on the backrest until the sofa is fully seated against the wall

and security latch "clicks" into locked position.

9-4 COMFORT SOFA SLEEPER

-(If equipped) (Typical Villagio - your coach may vary according to floor plan)
Your coach may be equipped with a Comfort Sofa Sleeper, which is featured with an air bed that can be adjusted to the firmness of your choice.

Sofa to Bed

1. Remove seat back cushions and set aside.
2. Remove rectangular seat back cushion and set aside.
3. Using the pull strap (attached to the back side of the sofa), pull the sofa back out and extend all the way down to the floor.
4. Unfold the air mattress so it is covering the sofa bed.

NOTE: The air mattress is plugged into an AC power outlet behind the sofa. It may be necessary to press the "Reset" button on the galley GFCI outlet before operating.

5. Tum the Comfort Adjust dial (located on the Air Bed Control) to desired firmness - push, Medium, or Firm. Air Bed Control (Located at head of mattress)
6. Tum the Inflate/Deflate switch "clockwise" to the INFLATE position.

NOTE: Pump will automatically turn off once selected firmness level is reached and the Inflate/Deflate switch will automatically return to the OFF position.

Silent Night Comfort Adjust If your air bed pressure drops below the predetermined pressure level, the Silent Night Comfort Adjust Pump will automatically tum on to re-inflate. The pump operates silently so that it will not disturb your sleep. Tum the Comfort Adjust dial to the OFF position to disable the Silent Night Comfort
Adjust feature.

Bed to Sofa

1. Tum the Comfort Adjust dial (located on the Air Bed Control) to the OFF position (to keep the pump from automatically turning on during storage). (Air Bed Control Located at head of mattress)
2. Tum the Inflate/Deflate switch "counter-clockwise" to the DEFLATE position for complete air removal.

NOTE: Pump will automatically turn off and the Inflate/Deflate switch will automatically return to the OFF position upon complete deflation.

3. Fold mattress edges back 6 inches and foot end of mattress back 20 inches. To avoid mattress damage, fold edges back 6 inches and foot end back 20 inches before returning to sofa position.
4. Grasp the pull strap and proceed to bring so fall the way up.
5. Reinstall rectangular seat back cushion.
6. Reinstall two front seat back cushions.

For further information see the air bed manufacturer's user guide provided in your Info Case.

9-6 DINETTE/BED CONVERSION

-(If equipped)
(Typical Villagio - your coach may differ)

Dinette to Bed

1. Release the catch on the table leg brace and fold the leg up against the bottom of the table.
2. Remove the table from the wall support bracket by lifting the end of the table. Then lower the table to rest on the cleats attached to each dinette bench.
3. Arrange dinette cushions to cover bed area.

Bed to Dinette

1. Reattach the table onto the wall support and lower the table leg.
2. Make sure that the table leg is secured into the floor support bracket and the leg brace is locked.

9-7 DINETTE CONVERSION

-(If equipped)
(Typical Villagio - your coach may differ)

Dinette Table Setup
1. Remove dinette table and pedestal leg from forward end of galley.
2. Insert dinette pedestal leg into the metal receiver on the floor. Your coach may be equipped with two metal receiver locations: One located in front the sofa. The other located behind the driver and Passenger cab seats.
NOTE: The cab seats must be completely rotated (facing the lounge area) to use as dinette seating. Refer to the chassis manual provided in your Info ease for complete operating instructions.
3. Place dinette table securely onto the dinette pedestal leg.

9-8 ROLLER SHADES (MANUAL) - SOLAR DAY/NIGHT

-(If equipped)
Your coach may feature two-stage day/night roller shades that provide both solar heat protection and light-blocking capabilities. The shade can easily be lowered by hand to any position, then retracted with a slight downward pull movement. When raising the shade, there is no need to hold onto the bottom of the shade - just simply let it go and it will rise at a slow, controlled rate. You can pre-set the auto-stop positioning of your shade, which allows your shade to retract to a cushioned stop, at the positioning of your choice.

For further information see the manufacturer's user guide provided in your Information Case.

9-9 CABINETRY

Cleaning /Repair Procedure

Cleaning: All surfaces can be cleaned by wiping them down with Simple Green or Windex cleaners.

Repair

Scratches can be repaired using steel wool. Rub the steel wool lightly with the grain on the material until the scratch is removed. After scratch is removed clean the surface with simple green or Windex.

A scratch can also be taken care of by wiping a small amount of Old English on the scratch and then lightly rub the scratched area with a dry cloth.

Dents can be removed using a heat gun. Guide the heat gun back and forth over the dent at a safe distance until the dent is removed. This process could take several minutes don't try to rush the process by placing the heat gun to close to the product. Keep the heat gun about 1ft away from the dent.

Deep gouges or holes can be repaired by using a Mohawk Fill-Stick. The Fill-Sticks can be purchased in a variety of colors by going to www.mohawk-finishing.com

SECTION 10 - SLIDEOUT ROOMS

10-1 SLIDEOUT ROOM KEYLOCK

A Master Slide out Room Key lock is located near the interior slide out control switch(es). This key lock must be turned ON to operate slide out room(s). Master Slide out Room Key lock (*located near interior Slide out control switches if equipped*)

10-2 SLIDEOUT ROOM OPERATION - ELECTRIC

⚠ WARNING

Your motorhome may have more than one slideout room. Understand which switch operates which slideout room prior to operation. Make sure all slideout rooms are clear of people who could be harmed or obstacles that could cause damage prior to operating any slideout rooms. Failure to observe can result in death or serious injury.

operating any slide out rooms. Failure to observe can result in death or serious injury. Slide out rooms provide a spacious living area at the push of a button.

Front slide out room switches are typically located near the Systems Monitor Panel. Location varies by model and floor plan. Rear slide out switches are typically located on a wall in the rear of the coach in or near the slide out room. Location varies by model and floor plan.

Slide out Switch
(Your coach may have one or more Slide out switches depending on model, options, and available equipment)
-Typical Villagio

⚠ CAUTION

Never drive the vehicle with a slideout room extended!

The slide out room system uses 12-volt DC motorized mechanisms with an electronic control system to provide smooth operation and positive weather seal.

NOTE: We recommend that you KEEP THE ENGINE RUNNING WHILE EXTENDING OR RETRACTING SLIDEOUT ROOMS so the engine alternator can provide maximum power for proper operation of the slide out mechanisms.

⚠ WARNING

CRUSH HAZARD. Keep people and objects clear of the inside and outside of the slideout room when operating. Failure to comply could result in death or serious injury.

10-2 To Extend Slide out Room

Before Extending! Level the coach and set the Parking Brake. Ensure exterior compartment doors are closed so that they will not interfere with slide out operation. Check inside and outside the vehicle to make sure that there are no people who could be harmed or obstacles that could cause damage due to room extension. If the slide out room has a couch or other furniture, make sure no people or pets are seated on them until the room has been fully extended.

Extend Procedure
See "Before Extending!" before proceeding. Start the engine so the alternator can provide maximum power for proper operation of slide out mechanisms. Insert the safety lock key into Slide out Room Master Key lock and tum to activate slide out room control switch. Press the Slide out Room "EXTEND/OUT" switch and hold until the room is fully extended, then release the switch. To stop extending the room during operation, release the button. Deactivate the slide out switch with the Slide out Room Master Key lock.

To Retract Slide out Room
Before Retracting! Be sure the coach is level and the Parking Brake is set. Ensure exterior compartment doors are closed so that they will not interfere with slide out operation. Check inside and outside the vehicle to make sure that there

are no people who could be harmed or obstacles that could cause damage due to room retraction. Stow all furniture extensions before retracting Slide out rooms to avoid property damage. If the slide out room has a couch or other furniture, make sure no people or pets are seated on them until the room has been fully retracted. Remove all items from the coach living room floor and close cabinet doors and drawers. Be sure there are no items at the end of the bed, behind the driver seat, or protruding from compartments, which could be crushed or cause damage to floor covering or cabinets when the room is retracted.

NOTICE

Because the slide out roof is drawn into the interior of the coach when retracted, be sure there is no debris, such as excessive dirt, tree seeds, twigs, leaves, etc. on the roof before retracting.

Retract Procedure

See "Before Retracting!" before proceeding. Start the engine so the alternator can provide maximum power for proper operation of slide out mechanisms. Insert the safety lock key into Slide out Room Master Key lock and tum to activate slide out room control switch. Press the Slide out Room "RETRACT/IN" switch and hold until the room is fully retracted, then release the switch. To stop retracting the room during operation, release the button. After the room is retracted, deactivate the Slide out switch with the Slide out Room Master Key lock.

10-3 SLIDEOUT ROOM - EXTREME WEATHER PRECAUTION

Certain extreme weather conditions, such as heavy rains, heavy snow, and high winds, or any combination of these, could cause damage to the slide out room cover-awning (if equipped) or reduce effectiveness of the slide out room weather seals.

Slide out Cover-Awning

-Typical Villagio

Also, freezing rain and snow can prevent the Slide out cover-awning (if equipped) from closing and may cause damage to the cover-awning, slide out room, weather seals, and mechanisms. To avoid potential damage, we recommend retracting your slide out room during extreme weather conditions.

SECTION 10-4 SLIDEOUT ROOMS SLIDEOUT ROOM TROUBLESHOOTING (LIPPERT) –(If equipped)

Battery Voltage or Circuit Breaker Problems

If the slide out room will not work: Tum the House/Coach Battery Disconnect switch OFF and then ON again. This will, in many cases, reset power to the slide out system.

The house battery may be low on charge. Plug in the external power cord (shoreline), star the engine, or start up the generator (if equipped). This may assist slide out room operation.

The chassis battery may be low on charge. Press and Hold the Battery Boost switch (located on the dash) while pressing the interior slide out control switch. This momentarily connects the house batteries to assist in slide out room operation.

The circuit breaker may be tripped. The circuit breaker, labeled "Slide out Power" is located on a panel on an interior wall of the passenger side storage compartment just behind or ahead of the entrance door.

• Status • Motor • Mode
LED's Direction Button
• Motor 1 Connection
• Motor 2 Connection
Slide out Room Controller
(Located in a driver or passenger side

compartment, depending on model)
- Remove panel to access

Error Codes
When an error occurs during slide out room operation, the slide out control panel (located in passenger side compartment) will use LED display lights to indicate where the problem exists.

For specific motor faults, the green LED light will blink 1 time for Motor 1 and 2 times for Motor 2. The red LED light will blink from 2 to 9 times, depending on the error code. The error codes are as follows:

(2) - BATTERY DROP OUT. Battery capacity low enough to drop below 6 volts while running.
(3) -LOW BATTERY. Voltage below 8 volts at start of cycle.
(4) - HIGH BATTERY. Voltage greater than 18 volts.
(5) - EXCESSIVE MOTOR CURRENT. High amperage (also indicated by one side of Slide out room continually stalling).
(6) - MOTOR SHORT CIRCUIT. Motor or wiring to motor has shorted out.
(8) - HALL SIGNAL NOT PRESENT. Encoder is not providing a signal. This is usually a wiring problem.
(9) - HALL POWER SHORT TO GROUND. Power to encoder has been shorted to ground. This is usually a wiring problem.

NOTE: *When an error code is present, the Slide out control panel needs to be reset. Operating the Extend/Retract switch will reset the slide out control panel. Operate the Extend/Retract switch again for normal operation*.

Manual Override In the event that the slide out room fails to retract and manual operation is required: Locate the slide out control panel (located in passenger side compartment). Press the Mode button 6 times, quickly. Press a 7th time and hold for approximately 5 seconds. Red and green LED lights will begin to flash, confirming the override mode.

Release Mode button.
• Use the slide out control switch (located inside the coach) to retract the room.
NOTE: If slide out room fails to retract using the Manual Override method, see "Slide out Emergency Retraction" elsewhere in this section.

For further information see the slide out room operating guide included in your Info Case.

10-5 SLIDEOUT EMERGENCY RETRACTION (LIPPERT)

-(If equipped)
If the slide out mechanism is malfunctioning and the room will not retract using the interior control switch or exterior control panel, you may need to access the slide out motors and manually push the room in to the travel position. There are two slide out motors equipped on the end wall of each slide out room. Pull back wipe seal to access motors.

Push-In Procedure
1. Remove slide out motor retention screw (located along exterior slide out trim), if equipped. Repeat on opposite slide out trim.
NOTE: If your coach is not equipped with Slide out motor retention screws, proceed to Step 2.Slide out Motor retention Screw (Located along exterior slide out trim) -If Equipped
2. Pull back wipe seal to access slide out motor.
3. Using a flat-head screwdriver, push bottom of Slide out motor UP to disengage (approximately 1/2" from base). Repeat on opposite slide out motor. Slide out Motor (located behind slide out wipe seal)
• Use a screwdriver to push slide out motor UP (disengage).
• Ensure slide out motor is disengaged approximately 1/2" from base.

4. Push slide out room in to travel position, ensuring both sides are relatively even.
NOTE: Several people may be needed to push the room in.
5. When the slide out room is fully retracted, secure the room with a support item (e.g. 2x4 wood board) above the interior slide out room to secure room during travel.
NOTE: For larger slide out rooms, place a travel support item on each end of the interior slide out room. Slide out Travel Support.
• Place support item (e.g. 2x4 wood board) above interior slide out room as
6. See your dealer for service of the slide out motors before using again.

For further information, please refer to the slide out manufacturer's user guide provided in your Info Case.

10-6 GENERAL SLIDEOUT CARE

Keep slide out room seals clean. Clean the floors inside the coach before retracting the slide out room to avoid floor scratches or carpet pile snags. Wipe outer slide out room seals occasionally with talc or 303 brand protectant for smooth, quiet operation. See your authorized dealer for regular maintenance and service of the slide out mechanism.

Slide out Room Seal Care and Maintenance
While most household cleaners work well for cleaning slide out room seals, certain chemical agents may cause the seals to degrade. Typically, 409® and Lysol® type products work well. Use a product, such as Armor All® to keep seals soft. In addition, certain caulks and sealers may include chemicals that may adversely affect the performance of the seals. See your authorized dealer for caulks and sealers recommended for your coach.

Quick Reference Guide

Villagio Switch & Monitor Panel

Located Inside Front Right Cabinet Door

House Battery Disconnect switch: This Switch shuts off battery voltage to the house 12 volt systems.

12 Volt Fuse Block: Remove the plastic cover to access the 12 volt fuses for the house 12 volt system this block doesn't control any of the Mercedes 12 volt systems see chassis owner's manual for the location and system fuse information.

Holding Tank Monitor Board: This LED system shows the Black, Gray and Fresh water tanks as well as the LP Tank and Battery levels.

Slide-out Switch: This is a rocker momentary switch. It controls the slide out to move to the out and stow position. **Slide-outs will not extend if the ignition key is on.**

Slide-out must be in the Stowed position when traveling.

Caution should be taken when opening and closing it could crush or injure if caution is not taken.

Generator Start and Kill Switch: This is a rocker type switch. One direction starts the unit and the opposite shuts the unit down. When starting hold the switch down until the generator starts. Once it has started release the switch. When shutting the unit down, hold the switch in the opposite direction until the unit shuts down. If the unit fails to start, check your LP fuel gauge to verify the fuel level is sufficient. If the tank has fuel and the generator fails to start please refer to the Onan owner's manual for further assistance. For Diesel units, the generator will not run if the fuel level is below a ¼ of a tank of fuel.

Generator Hour Meter: This meter is for tracking usage of your generator. Refer to the Generator Owner's Manual for the service requirements. Remember that you need to check your fluids in your generator. Low fluids can & could cause extreme engine failure to your generator.

Stabilizer Jack Switch: This switch is a rocker style switch. One direction extends the levelers and the opposite will retract the jacks. This unit is equipped with stabilizer jacks that are intended to stabilize the unit but will not to make level the unit. If the stabilizer jacks are down and the ignition key is turned on, the jacks will automatically begin to retract.

Make sure you have fully retracted the stabilizers before traveling or damage to the jacks, motor home or others can occur.

WARNING: Death or Injury could accrue if you are under the unit when trying to raise or lower the jacks. These jacks are not for raising the unit to make repairs or changing tires. This can cause damage to the jacks or to you.

Water Pump Switch: This is an on/off type switch. This switch operates the fresh water pump for the sinks, toilets and shower. This is used when not connected to a water supply system.

Storage compartment Light Switch: This is an on/off type switch it is the Master switch for the lights in the belly storage boxes.

Holding Tank Heater switch: This is an on/off type switch. This switch turns the heat mats on the holding tanks on to keep the tanks warm and prevent freezing. These mats are not intended for winter storage of the unit. Failure to empty the all holding tanks before putting the unit in storage will subject the tanks to freezing when temps are below 32deg. It is recommended that waste tanks are drained after each trip.

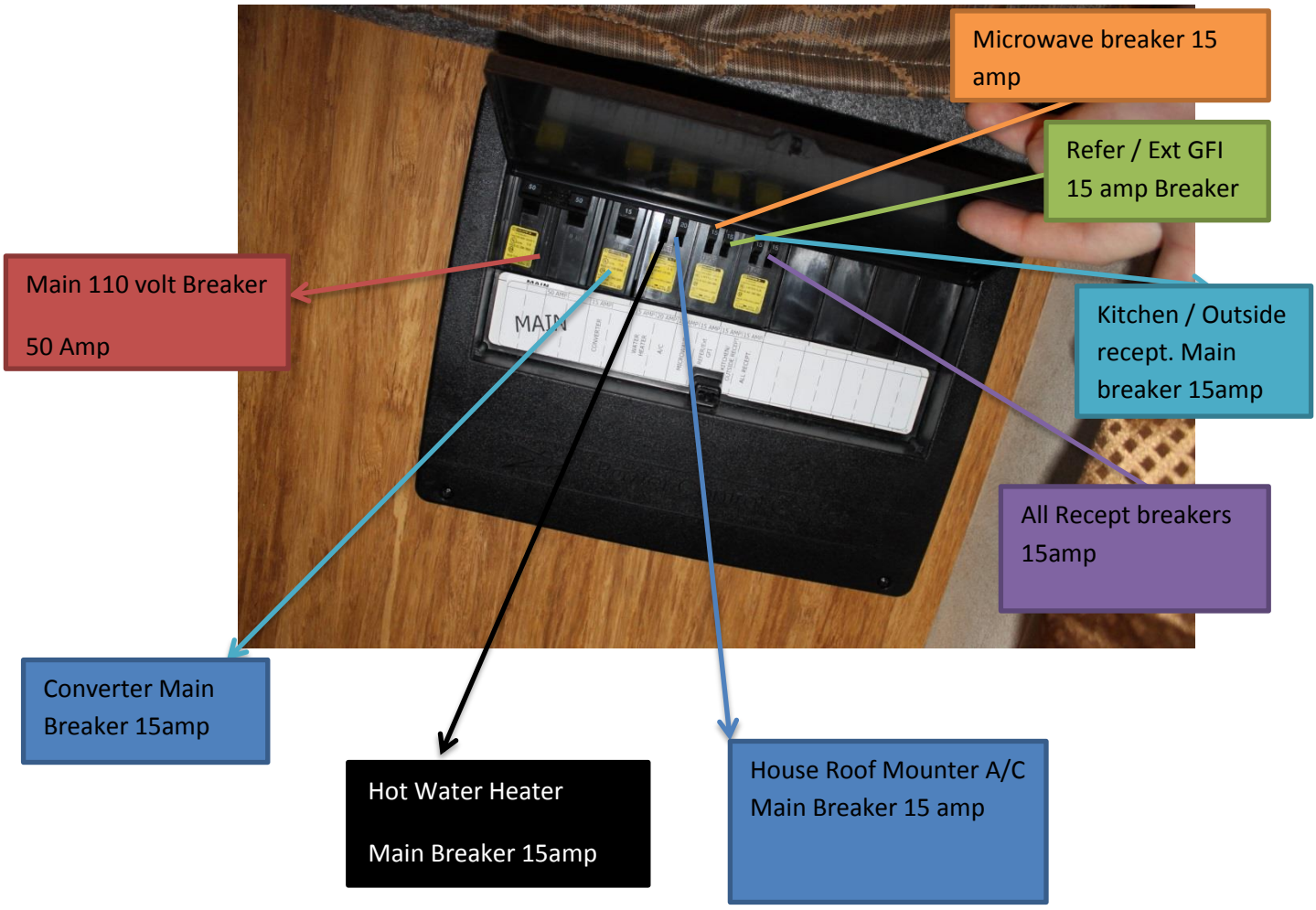
Awning Switch: This is a rocker type switch. When operating hold switch down while awning is extending to the full out position. Hold the switch in the opposite direction until awning is fully retracted. Awnings must be completely retracted to the closed position when traveling or damage will occur.

Awning Override Switch: The override switch is a Master Power switch for the awning. Our awnings have a built in “wind sensor” which is intended to automatically close the awning in the event that you experience excessive winds while camping. The override allows you to turn off this feature.

Where is my Breaker Box?

What is the Breaker Box control?

Main 110 Electrical Panel located on the base of the bed Structure

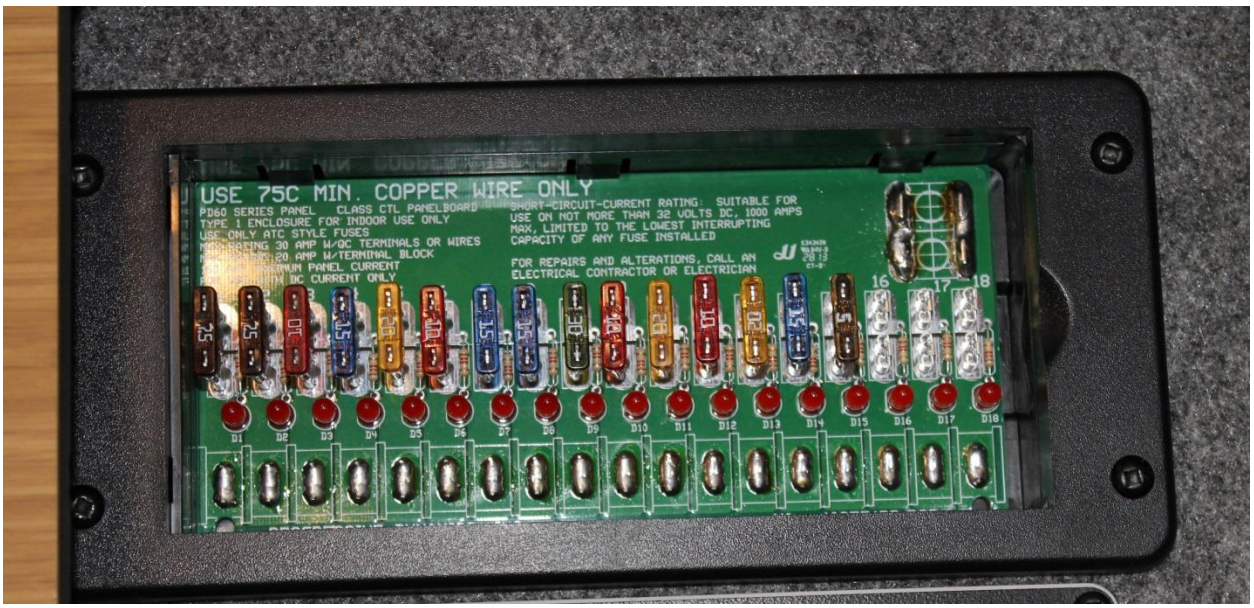

Microwave breaker 15 amp
Refer / Ext GFI 15 amp Breaker
Main 110 volt Breaker
50 Amp
Kitchen / Outside recept. Main breaker 15amp
All Recept breakers 15amp
Converter Main Breaker 15amp
Hot Water Heater
Main Breaker 15amp
House Roof Mounter A/C Main Breaker 15 amp
MAIN

In the event you have a 110 volt power failure check the Main breaker to issue it is on. If the breaker is tripped reset the breaker switch power should be restored.

This will also be the case if one of the other breakers is blown. You may want to make sure you haven't over loaded the circuit.

12 Volt Fuse Block for Living Area

Located above the house switch panel


USE 75C MIN. COPPER WIRE ONLY
PD60 SERIES PANEL CLASS CTL PANELBOARD
TYPE 1 ENCLOSURE FOR INDOOR USE ONLY
USE ONLY ATC STYLE FUSES
SHORT-CIRCUIT-CURRENT RATING: SUITABLE FOR USE ON NOT MORE THAN 32 VOLTS DC, 1000 AMPS MAX, LIMITED TO THE LOWEST INTERRUPTING CAPACITY OF ANY FUSE INSTALLED
FOR REPAIRS AND ALTERATIONS, CALL AN ELECTRICAL CONTRACTOR OR ELECTRICIAN
DC CURRENT ONLY

Fuse Location and circuit information

1. 7.5 amp: Interior & porch lights
2. 7.5 amp: Power Roof Vent
3. 10 amp: TV
4. 15 amp: Water Pump
5. 20 amp: Refrigerator
6. 10 amp: Bay Lights
7. 15 amp: Furnace
8. 15 amp: Thermostat
9. 30 amp: Slide out
10. 15 amp: Water heater
11. 10 amp: Awning
12. 10 amp: Underbody lights
13. 20 amp: Macerator Toilet
14. 15 amp: Tank Heater
15. 15 amp: Awning Lights

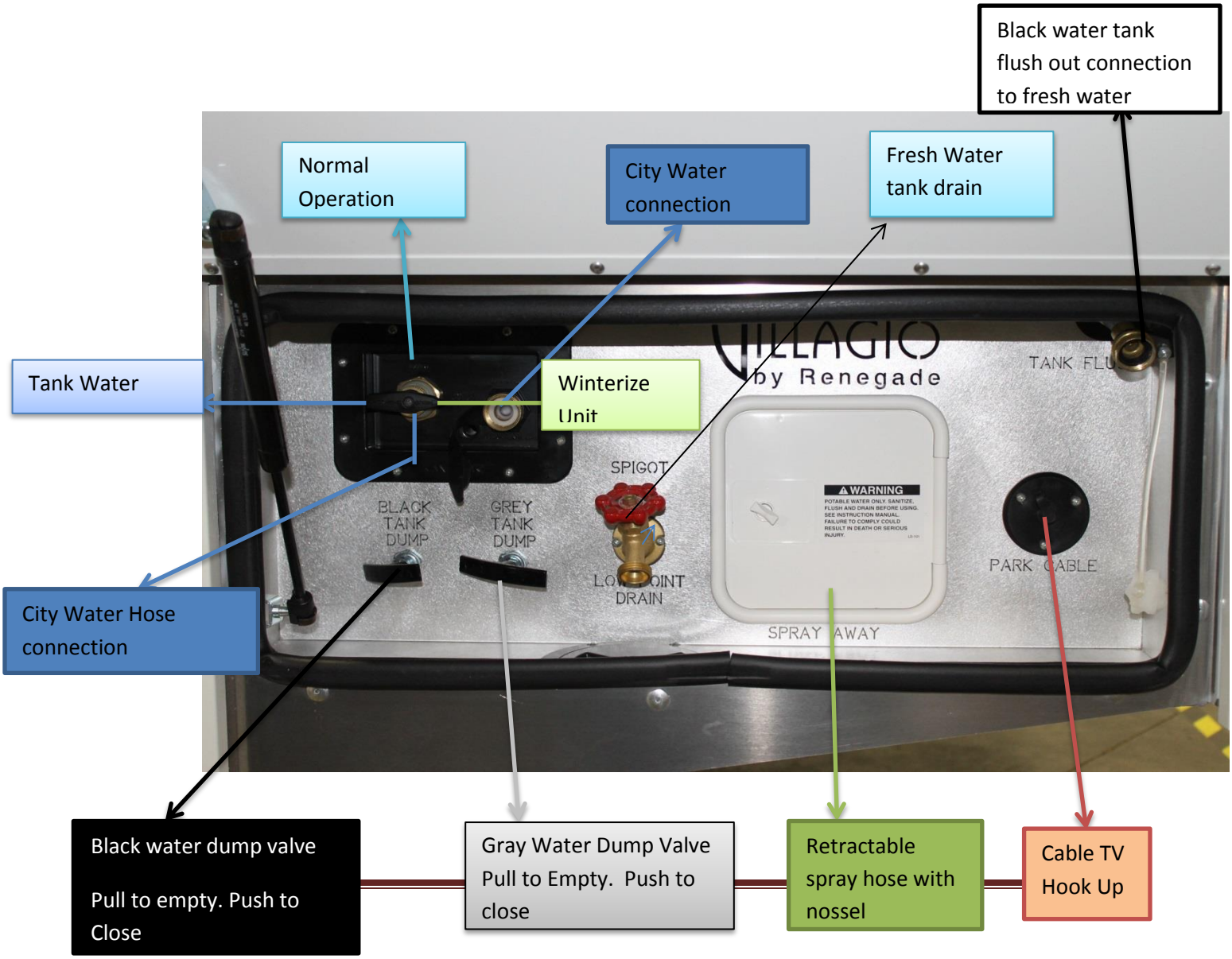
16.-17.-18 Are blank and not used at this time

VILLAGIO OWNERS MANUAL

If you have a 12 volt circuit that doesn't work when turned on. Do not turn the circuit/ Switch off. Go to the 12 volt fuse block and check to see if any of the **RED LED** lights are lit. If there is, that fuse is blown after identifying that blown fuse turn off that switch / Circuit and changes the fuse. Turn on the circuit after you have changed out the fuse. In the event that fuse blows again contact a service repair center to have it looked at. Do not put a larger fuse in that spot as this could cause a fire.

Water connection and controls are located in the street side rear luggage box

Storage door's must be closed when traveling or damage will occur!



Your Generator is located in the Curb Side Rear Storage Box. Storage Door must be closed when traveling or damage can occur

Your Generator requires Maintenance. Please refer to the Generator Owner's Manual for the required Maintenance intervals.

Failure to follow the Owner's manual and the maintenance requirements can result in Server Damage!

The End of the Document